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ORIGINAL ARTICLES.

ANTISEPSIS AND ITS RELATION TO THE SCIENTIFIC TREATMENT OF DISEASE.

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IN assuming that the bacterium or microbe is the specific cause of the specific disease, we may be compelled to admit error in the reasoning of the author of the *Organon*, where he ridicules the presumption that "a disease was a something separate from the living organism and the vital principle which animates it." "The spiritual influence or morbid agent" would no doubt have been recognized by Hahnemann as a material something, could he have availed himself of modern chemistry and microscopy, and a direct cause in many instances; for the conditions which he recognized by symptoms only would have been traced to that cause; but that discovery, even at that time, could not have saved the effect.

There is not a word uttered, in the so-called regular college lecture room to-day, bearing the stamp of scientific authority, which teaches anything outside of prevention; they absolutely know no restorative medicines. There are but two Homœopathic colleges in existence who advertise bacteriology as a part of the college curriculum, and teach it as a basis of prophylaxis, and in one of them it is optional. Yet *this* dual proposition confronts us at all times, viz.: to prevent disease and to cure disease. These factors exist in every phase of the science of therapeutics as it is practiced to-day and should go hand in hand in precept; and he who ignores the one or derides the other fails to grasp the situation, or wilfully perverts the testimony of experience.

There is no form of lesion which does not, or may not under certain conditions result in toxæmia, and if this condition is averted, it is due to therapeutic agents, either preventive or restorative; preventive, saving from complete development; or remedial restorative agents assisting nature in her resolution. As proof of this, we have only to study surgical history, the advance in the art, and a comparison between the conduct and the result of surgical cases to-day with that of the past years. Only a few years ago a resort to laparotomy was almost equivalent to reading a patient the death warrant; now a large percentage result in recovery. Surgical wounds heal by first intention, a result scarcely possible before the days of asepsis. No one questions the beneficial results following the judicious use of so-called germicides in contagious or infectious dis-

ease. How efficient would be the *similis* in the treatment of an eye inoculated with gonorrhœal virus, without antiseptics? And what would become of the pain, heat, redness and swelling, without restorative agents is equally problematical. A simple fracture heals by resolution; a compound one may terminate in pyæmia; a contused wound will return from the hyperæmic stage to the normal condition; yet an abscess may form without sufficient protection. Catarrhal inflammations may subside after a season of increased secretion, or pus may form, a condition brought about only through external agents, and saved through preventive or restorative means; each a system within itself but neither exclusive of the other, and how the bacteriologist can deny the one, or why the Homœopathist should question the other is equally inscrutable. An enthusiastic Homœopath is justly amazed that any intelligent man should doubt the utility of his remedies, and the candid scientific so-called regular well may be astonished at the audacity of the Homœopath, who, in the light of modern discoveries, would attempt to treat disease by the laws of similars alone.

While the votaries of Homœopathy have, by their zeal in attempting to give the law universal application, contributed against its universal acceptance, its opponents in their efforts to discredit it, are contributing to-day much towards making the tenets of Hahnemann an incontrovertible fact, though circumscribed in application; and when we admit that *similia similibus curantur* is simply our best guide in selecting a remedy, we have assumed the position which science cannot dispute with us. If Hahnemann could have had the results of the last one hundred years' research to have guided him, the science of therapeutics would know no divisions now. When he commenced the investigations which led him to announce the postulate that has immortalized his name, medicine was in a chaotic state, and error in the application of the hypothesis has contributed with superstition in limiting its adoption. He conceded a combination of remote obscure causes of disease, but chemistry, physiology or pathology could not assist him in separating them, much less in determining their character. To his mind all things possessed an objective existence, or were simply immeasurable; but through the aid of a positive science the invisible of his day is made plain to us, and the obscure complications, with their cause, duration and termination, are being understood, as were the simple idiopathic affections then. The very fact that we can, and do cure these simple idiopathic diseases reflecting the picture of the drug, as clearly as the pathogenesis of the drug itself, and

then fail with the symptoms equally clear in other cases, where the cause may be obscure, has contributed more than all other causes towards making skeptical Homœopaths and scoffing rivals. This condition arises before us every day in our practice. A patient, through exposure, overwork or over-indulgence, contracts a simple form of disease, acute pharyngitis, for instance, the well selected remedy dissipates the symptoms; and as if by magic, the patient is cured, and we are surprised at our own skill. The identical same symptoms appear in another person, and twenty-four hours afterwards our faith in Homœopathic remedies is seriously shaken; we have a well developed angina maligna on our hands. Now, where does *similia similibus* come in? And where does antiseptics come in? Some one may question that diphtheria is a contagious disease. Then for the purposes of argument and illustration let us produce an artificial lesion. Upon the surface of an apparently healthy person's body we make an incision; from that cut or abrasion we may produce almost any pathological condition known to surgery, from healing by first intention to the most virulent form of pyæmia. Physiology teaches that in the solution of continuity of a part, whether by accident or otherwise, by reason of the irritation to the vaso-motor nerves in producing an increased flow of blood into the part, the leucocytes or white blood corpuscles swarm to the edges of the wound, where they meet the least resistance, and commence at once to perform one of their functions, that of restoring the lost capillary circulation. This act is purely physiological, and if protected externally, if external interference is prevented, and disease producing germs or microbes do not creep in, the wound heals by first intention; but should the wound be exposed to these bacteria, a chemical action sets up between them, the leucocytes and other blood constituents—the pabulum of the bacillus—the whole combining into pus-corpuscles or leucomaines, to return again charged with their toxins into the volume of blood, or to be thrown off through the process of healing by granulation.

Shall we not then conclude that there is a rule, a law of cause, and prevention? An unchanging law, dependent upon the fixed laws of science; and after this, is there still a law of cure? Let the thousands of Homœopathic physicians throughout the world answer, and let the millions of people who employ Homœopathy, let the colleges, the hospitals, the asylums, the infirmaries erected and maintained upon that hypothesis attest; and then let us ask ourselves the question, and stake the answer by asking another: What shall we do in these diseases, peculiar to the absorption of these toxin laden leucocytes?

Similia, Similibus, Curantur! Why does not science demonstrate it? Science is demonstrating it, and with a determination and positiveness that is causing science herself to be amazed. While the Klemperer brothers, of Berlin, during

recent years were following up their investigations and experiments for the purpose of demonstrating the theory that somewhere, or sometime in a hæmotoxic disease an anti-toxin was produced which should antidote or destroy the original toxin, little did they dream that those experiments would lead them to cure a morbid condition by producing a similar one. (This reads like a paragraph from the Organon). This they did accomplish, however, in Berlin, staid conservative Berlin, and announced it to the scientific world, before the image of their pneumococcus had faded from their vision. Shades of the Eternal! Ghost of Samuel Hahnemann rise up in judgment! It was he who said in the Organon in 1810, that "A weaker dynamic affection in man is permanently extinguished by one that is similar, of greater intensity." A century ago, from the fertile womb of necessity this Apephalus came forth, which they vain would have strangled in its birth; but succeeding not, in this year of the reign of the microbe, with new sponsors in baptism, it is re-christened antitoxin.

They may quarrel with the theories of the Organon, and with the inventions of the author; but, purge the Organon of its fanciful imaginings, go back from the day when that book was written to the day Hahnemann announced his discovery, disrobe of all speculation that greatest formula ever given to suffering humanity, read it in the light of one hundred years' experience, by the searching eye of science, undimmed by prejudice: "*Similia Similibus Curantur*;" it still remains an unbroken postulate.

Klemperer brothers' experiment qualifies the discovery of Jenner, strengthens the hands of Pasteur, of Koch and other investigators; outside of that however, their conclusions are perhaps lacking in utility. They injected under the skin of a patient in the first stage of pneumonia, the serum from a blister raised on the body of another patient who had reached the stage of absorption, with the result, (using their own language) "of having anticipated the crisis." Whether the Klemperers have gained the satisfaction sought matters little; the field for speculation and further investigation is growing attractive.

The theory of Koch and others, that a particular microbe or bacterium is the cause of a particular disease, cannot be of any less importance to us who believe in a law of cure than to those who do not, because the admission and proof is still before us.

When Pasteur, in 1862, showed that the fermentation of urine is produced by a particular organism, and that boracic acid stopped its growth, he paved the way to the investigations which have so conclusively demonstrated, qualified by the number and respectability of the men engaged in it, that specific diseases are produced by specific causes of microscopical dimensions, possessing distinct form and life, and susceptible of destruction by distinct and characteristic agents; and when these investigations have shown that these

organisms can be propagated outside the body, then inoculated into a healthy subject, producing in each case a particular disease, each after its own kind; and, when the experiments have so narrowed the field of unknown causes of disease, as to prove conclusively the external origin of disease, shall we not, even at the sacrifice of the Organon, give it general application, and recognize a law of prevention with the law of cure, inseparable laws, the study and understanding of both of which shall alone constitute the science of medicine?

This reasoning and discussion will avail us little without application, and upon the success or failure of the application its logic should stand or fall.

The gonorrhœal virus is certainly of external origin, is susceptible of destruction by distinct chemical agents; if not destroyed capable of producing disease of varying degrees of gravity; the disease is ameliorated by internal treatment, and may be cured spontaneously; is self limited. Koch enunciates four postulates, which should apply to every case where the germ or bacterium is found, before the micro-organism can be taken as the unqualified cause of the disease. These are: (1) The microbe must be found in the blood, lymph or tissues of the diseased animal or in one dead of it. (2) This organism must be separated or isolated from the blood, lymph or diseased tissues, and cultivated for a number of generations. (3) A pure cultivation so produced, must when introduced into the body of a healthy animal produce the disease in question. (4) In the inoculated animal the same germ must be found. We can scarcely quarrel with those propositions, and the case in illustration comes directly under it. A distinct micrococcus is found in the gonorrhœal virus. It has been separated and cultivated outside the body, and when introduced into the body of a healthy subject produced the disease in question, and in the inoculated animal the original germ was found. (Neiser).

What has been proven with the gonococcus, has been verified with the virus of other diseases; the bacillus of typhoid, of cholera and diphtheria, and the micrococcus of erysipelas and pneumonia as examples; but this one has been selected as a type because of an apparent defect in law in the treatment of this disease. A student of Homœopathy twenty years ago, could not but have been exercised over the discovery that our specialists treated gonorrhœal ophthalmia, and its counterpart, ophthalmia neonatorum, locally.

The almost universal adoption of the practice of antiseptics in surgery, its history, from its conception by that great English surgeon whose name it bears, through development and establishment, until it has become a working hypothesis of world wide acceptance, leaves no room for argument; but its application to disease not primarily surgical, leads necessarily to speculation as to the manner in which bacteria may produce disease, and in that connection we may also speculate as to

the reason why some subjects possess immunity from infection (natural immunity) also, as to the reason that certain agents produce artificial immunity, at least confine within certain limits the action of the infection. In order to make the logic good, a parallel should exist between the surgical wound, under the attack of bacteria, and the seat or origin of the disease. May we not take it for granted that this condition is maintained, if at the seat of the disease there was primarily an abrasion or real solution of the continuity of the part, by accident or otherwise; or in an abnormal determination of blood to the part, with the necessary deposit without the capillaries of the pabulum upon which the germs operate? Upon this theory may be accounted the natural immunity which is often found, and the artificial immunity afforded by asepsis or isolation.

It is not the purpose, nor within the limit of this paper to even speculate as to the original or primary causes which prepare a seat or resting place for bacteria; but upon the manner in which they enter the tissues, or in what way they produce disease is the problem upon which depends the necessity or not for the use of antiseptics or germicides in the treatment of disease. That they destroy the oxygen of the blood, a theory once advanced, is without any foundation. That they act mechanically, by plugging up the capillaries, seems probable, a condition found in anthrax, and which may account for the ulceration and sloughing where bacilli are present; added to this probably a chemical action, to which means are due the elaboration of ptomaines and leucomaines.

The productions of leucomaines or pus-corpuscles, and the manner of disposing of them, can differ little from the similar process during the healing of surgical wounds, and the property of certain organic substances, outside of the body, to generate an active principle (a ptomaine) in the presence of certain bacteria or germs, or through their influence, is so well established as to demand no argument. Whether, however, that property exists within a living organism, may not be so well established. Is it not probable that this process (the development of a ptomaine) is always exterior or extraneous to living cells?

In the capillary engorgement, the primary stage of all lesions, all the phenomena of a normal capillary circulation is at first present, but with the plugging up or compression of the vessels, that portion of the tissues included becomes dead to the action of the living blood, and through the presence of these bacilli fermentation sets up. This would seem to be true, from the gases or odors which always spring from the seat of all such diseases as diphtheria, typhoid, etc., where sloughing or ulceration become one of the symptoms.

The phenomena of the change of leucocytes to leucomaines, the omnipresence of cocca-bacteria or pus-forming germs, along with the character-

istic bacilli of the disease, is readily accounted for. It is not the purpose, at this time, to enlarge upon the molecular disintegration through which these sloughing tissues should pass, and the poisoning of the whole volume of blood by the ptomaines and subsequent absorption or throwing off of leucomaines, accompanying the granulating process; but of the manner in which the broken continuity is re-established, or may be re-established before these products have caused what may be termed the phenomena of the specific disease, and the preventive means in our hands, or at our hands, and their relation to those which we have designated as remedial or restorative agents, shall conclude this paper.

If bacteriology had no other claim upon us than the established fact that typhoid fever and cholera are preventable, it should be entitled to our most favorable considerations. No question is raised but that both are produced through that which is taken into the stomach, in the form of food and drink; but whether the investigations in this direction shall crystallize into something practical as regards the treatment of these diseases, remains in doubt.

It may interest us little to know whether one or two or more species of bacteria may produce typhoid, or whether Dr. Vaughan, of the University of Michigan, is right or wrong, in claiming in the face of an army of other equally distinguished scientific men that he has discovered three distinct families of typhoid bacilli; and that from the feces of patients not suffering from typhoid the typhoid bacillus has been found; the fact remaining that impure water is a natural culture of these germs, and that to drinking water is ascribed the means through which they reach the seat of the disease, becomes of the utmost importance in preventing, if not curing the disease. One very nice point is developed by Dr. Vaughan, though he attaches no importance to it in his lectures: That a degree of temperature approximating fever heat, tends to destroy, or at least modifies and changes the form of the bacillus. How the enthusiasts of the cold pack will reconcile this with that form of heroic treatment remains to be explained. The abandonment of the expectant plan of treatment because of the germ origin of the disease is not surprising, and the revival of the use of calomel, but in small doses, often repeated, proposing to create a compound of mercury, a germicide, within the alimentary canal, may command our attention. Dr. McPhedran, of the Toronto General Hospital, publishes some interesting statistics, including results from this form of treatment, carried through the early stage of typhoid. How far we might be justified in using mercury in any form, or any known antiseptic in typhoid fever, as we use them in diphtheria or other kindred diseases, is left without expressing an opinion otherwise than with the suggestion that there may be some analogy between the result of the continued use of the chloride of mercury and the cholera flux, and pos-

sibly, the latter is nature's manner of washing out the cholera bacilli. Osler recommends washing out the bowels antiseptically in the early stage of these diseases. It would seem that the use of astringents and opiates is relegated to the past.

Another very grave disease, one to which is due a larger mortality than any other, tuberculosis, is also placed in the list of germ diseases classed as dangerous to public health, by our sanitary boards, capable of prevention, and it is claimed of being successfully treated antiseptically. Attention is called to the inhalation of vapor charged with cresote, eucalyptus, etc., in phthisis pulmonalis.

While it may be borrowing to proclaim that diphtheria is a disease of germ origin, or that to any particular species of bacteria known is due the train of symptoms that we recognize by that name, still it is true that any man who would attempt to treat diphtheria without antiseptics, or who would neglect asepsis or isolation where the disease is known to exist, would be and should be adjudged guilty of malpractice, so universal is the belief in and almost positive the proof of its cause.

The use of antiseptics in disease, while based upon the same general law as in surgery, is not exactly analagous in application. In surgical operations we have the solution of continuity; in disease the lesion of continuity; asepsis and antisepsis may prevent the lesion in the former, but if this is not accomplished the analogy becomes complete. The object sought, viz., to prevent the poisoning of the blood through the decomposition of animal (organic) matter is the same in each, and would appear to be accomplished by preventing fermentation, as in surgical operations, or by checking or hastening it where the lesion has occurred. The first is undoubtedly realized in operative surgery by the practice of Listerism.

The completion of the process of fermentation should differ little in any organic matter; a proper temperature, a proper supply of oxygen and the presence of the agents of fermentation. The stages of fermentation in the carbo-hydrates and albumenoids may be considered as two distinct phenomena, the alcoholic and the acid, the latter with increasing temperature and perhaps a new type or family of bacteria to facilitate oxidation. If these stages are uninterrupted, fermentation completes itself, the latter supplementing the first. Whether we draw any practical conclusions from this theorem in chemistry remains to be determined; if we accept however as characteristic the local manifestations in diphtheria or any external disease in which the lesion of continuity is under observation, we must admit an analogy to the two stages of fermentation (the chemical reaction of the discharges changing in the process to a markedly increased acidity as the disease advances).

Of all the chemical agents used or recommended as antiseptics, those which possess the power

of presenting the greater supply of oxygen stand first; but whether this is based upon the fact that fermentation must be completed, or that the process may be arrested, is open to speculation. The theory that the real fundamental principle of fermentation (invertase) the ferment itself, is the normal secretion of the bacterium, should have some bearing upon this point; at all events, there seems no question but that thoroughly oxidizing agents do possess inhibitory power, but that we possess practical means of entirely keeping microbes out, would be equivalent to announcing that the millennium had come. This is undoubtedly approximated by the use of freshly cooked food and distilled or boiled water, as in diseases of the alimentary tract, and in such diseases as are formed through the medium of the atmosphere by destroying or chemically changing the organic substances upon which the germs subsist. If we recognize all bacteria as belonging to the vegetable kingdom, it need not take a very wide scope of imagination to conclude upon what the nature of the organic substances is (the nitro-hydrogen compounds) and why certain chemical agents locally applied prove effective.

The success following the persistent use of hydrogen peroxide is undoubtedly based upon its oxidizing qualities, the free atom of oxygen uniting with the fermenting albumenoids and hydro-carbons, raising their oxidation, and freeing the nitrogen from its compounds. The objection to this agent can only lie in the fact that free oxygen does not act with the same energy as at its birth; however, after fermentation is accomplished and the leucomaines have formed, the presence of free oxygen would seem to possess the greater utility.

The potassium chlorate ($KClO_3$) a germicide, presents three active atoms of oxygen, and in addition the chlorine has affinity for hydrogen.

And the potassium permanganate ($KMnO_4$) another and a strong oxidizing agent, converts the lower oxygen compounds into higher.

And another, without rehearsing the many possessing like qualities, but in less degree, the sulphur dioxide (SO_2) and perhaps the best and most practical, where it is desirable to use an antiseptic or disinfectant in gaseous form. Sulphur dioxide presents two active atoms of oxygen which are taken from the surrounding atmosphere at its formation. The oxidation of sulphur, which is active at a high temperature, is slow at or about $180^\circ F.$, and may be practically accomplished by keeping a plate covered with the sulphur over a vessel of boiling water constantly in the sick room, at the same time giving attention to ventilation. This is a complete, and in this mode of application, perfectly safe oxidizing agent and is especially adapted to throat diseases.

It is not the intention to pursue this study further, except to call attention to the unqualified demand and absolute necessity for the use of antiseptics in all diseases characterized by fermentation or decomposition (a persistent scientific use where ulceration and sloughing is present). An

intelligent practice of sterilized alimentation, and the judicious use of disinfectants at all times, but more especially in the sick room; to congratulate ourselves that already the standard of medicine has been raised by the study of preventable diseases and their prevention, and to draw the following deductions, prophetic of the trend of bacteriology and modern scientific medicine:

That all diseases in which there is a solution of continuity are due to external agents (bacteria).

That these bacteria are communicated directly from individual to individual through alimentation, or through the atmosphere.

That all bacteria belonging to the vegetable kingdom require for their subsistence the nitrogen hydrogen compounds, and may exist wherever these substances are found.

That all animal or vegetable matter, when disunited from living force, under proper thermal conditions, in the presence of oxygen and the agents of fermentation produce these substances.

That all secretions and transudations are separated from the living force, and may present a nidus for bacteria if not absorbed or cast off.

That adjacent tissues may become separate from living force, by the rapidly accumulating bacilli mechanically obstructing the capillary circulations and become included in the decomposing process.

That this decomposing or purifying process is the process of fermentation of the hydro-carbons and albumenoids composing animal matter.

That the product of fermentation thus established is not different than if it were entirely separate from living tissue, and consists of the oxygen derivatives, alcohols, aldehydes and acids, and nitrogen hydrogen compounds, dependent upon the height of oxidation, and the absolute composition of the substance under fermentation.

That the extent of fermentation may be abridged by chemically changing the product upon which the bacilli subsist, and that this is spontaneously accomplished when the extreme height of oxidation is reached.

That the rapidly increasing temperature of the body shortens the period of fermentation, and as a consequence limits the area involved.

That during the active stage of fermentation the toxins or ptomaines, the active principles of fermentation, are absorbed by the blood, unless they chemically reach at the seat of fermentation.

That the completed product of fermentation is effete matter, is thrown off as such, or carried away by the leucocytes in the form of leucomaines, to be excreted from the body or deposited somewhere as abscesses by the terminal arteries.

The American Sanitary Association announces that, "briefly stated, the objects of our Association are to discourage the manufacture and sale of impure and injurious foods and medicines, and to encourage the introduction of wholesome and honestly manufactured articles of food, medicine, clothing, and sanitary appliances in general," and in no way seeks to antagonize the American Public Health Association.

LIFE IN THE OELL.

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ITS BEGINNING IN THE OVUM CELL AND SUBSEQUENT DEVELOPMENT.

NOW that we have seen the origin of the fecundator of the ovum—the spermatozoid—and having watched it on its devious transit from testicular sperm cells through the male generative organs, and onward to its final destination, the ovum, we see it creep through the micropyles of the zona pellucida, and disappear from view on its secret mission of commingling sperm life with ovum life.

Is there anything in palæozoic life, and its reproduction, that antetypes, however remotely and incompletely, the beginning of life, now under our thought and speculation. As far back as the protozoans of the primary palæozoic age, when life was unicelled and primitive, the inherent vitality therein yet needed nutrition and extrinsic vital propulsion, one cell attracted another, and their unification compelled other and more perfect life development. Even the primordial cell summoned its fellow to a union from which emerged the humble and degraded seaworm. 'Tis true, the simplest unicell has, of itself, properties of development to a certain stage of growth, but union with other analogous forms is the necessary adjunct for the possession of qualities and powers of the higher and more complete life. Here, then, is the initial operation of creative law, viz., primitive protozoic life, capable, by and of itself, of certain attributes and powers; but finite, and demanding co-operative union to reach the purposes for which it was originally brought into existence. Then, from this verily inceptive point of life up to man himself, the union of individual qualities and attributes can alone effect the reproduction of life from life, and is the sole illustration of *Suprema Lex*, that "knows no variation, nor shadow of change." Thus we see that man is begotten just as was his humble prototype when the world was young, and but new from chaos. The Great Architect fixed His fiat then, and it stands immovable and unchanged. There's no such thing as change, there can be none, in the laws that have made worlds under the guidance of omnipotence, omniscience, omnipresence. The question that must now engage us is one which we approach in the fullest doubt and uncertainty of our ability to offer of it even an approximate solution. We will suppose that the ovum has received the fecundating principle imparted by the intrusive spermatozoid, and is thrilling under the influence of its new and unaccustomed stimulus. Here we might interpolate the consideration of the new and unaccustomed sensations perceived by woman at the time, we might say moment of conception, and well known to physiologists and physicians. At this point we might also review the protean

and innumerable excito-motor and reflex ovarian influences experienced by suffering woman, and by which her life is, unhappily, so often made wretched and miserable. It was our purpose to do this, and our desire, but other thoughts must engage us now in following out cell life. As we have said, man, and the cells that begat and perfected him, are before us still, awaiting our feeble efforts to unravel their mysteries, a study for a lifetime, with which it were presumptuous to hope to do more than begin. "*Ars longa, vita brevis est.*" Science is too long, and life is too short, to fathom all the secret things of our being. In his rapt contemplation of the stupendous idea of immortality, and of the endless eternity of its existence, the mind of the poet found its overflow in these words:

"To me, the meanest flower that blows
Can give thoughts that do often lie
Too deep for tears."

In the contemplation of creative laws, thoughts rise, too deep, not for tears, but to find adequate expression for its wondrous operations in forming even the lowest of its creatures. A tiny object of conspicuous beauty disported itself in the old Silurian seas. With its ten waving arms, radiating like star rays from its little body, the comatula wandered to and fro, to find the food provided for it by the element in which it floated through its short and independent existence. We seek to know how man is made, and here we are taught the lesson, that from the lowest to the highest, there is a force compelling and impelling life, irresistible in its resources and its powers, that can create, fashion, and fit the tiny little comatula for its finite life, and adorn it with comeliness and beauty, when and where there was no eye to see, save that of the "All-seeing One." The same force began and still continues to compel and impel life in every creature and in every object that lives to this hour, and will end only when that other fiat shall be proclaimed, "Time shall be no more." Then we enter upon the realities of eternity, and stand face to face with the arbiter of human destiny. Life must begin over again, its mortal part left behind. Creative law still reigns, as ever, progressive, and as ever, moulding the more perfect life. We began from infinitesimal life here, and went on, climbing higher and higher in our mortal life, impelled by *Lex Suprema*. The same will guide and direct our new inheritance of immortality, and there will be no more,

"The secret dread, and inward horror

Of falling into naught.

'Tis the Divinity that stirs within us,
'Tis heaven itself that points out an hereafter
And intimates eternity to man.

The stars shall fade away, the sun himself
Grow dim with age, and nature sink in years,
But thou shalt flourish in immortal youth."

Again to our task. Life is about to begin, and we labor to possess the secret mystery of its beginning, if we can. From the moment that the spermatozoid passes the micropyles of the outer membrane of the ovum, the zona pellucida, it be-

gins to diffuse its fecundating influence. What is the *modus impregnandi* of the spermatozoid, and how does it infuse such vitality into the vitellus of the ovum as to cause it to become vivid with a regenerative force that can give life to, and develop a human being? As respects the changes that occur in the ovum, the vitellus, its segmentation, the vitelline nucleus, and other phenomena attending fecundation, the reader is, no doubt, sufficiently familiar with them all, and if desired can easily refresh the memory by appealing to well-known authority on the subject.

But we look in vain for an answer to the question proposed. Until the arrival of the spermatozoid, and its reception by the ovum and assimilation with its contents, no life stirs within the zona pellucida. The periodical phenomena of ovulation and menstruation, heretofore the special functional activities of the ovum, cease, because new conditions have suddenly sprung into existence, and the real and serious business for which the ovum was originally made must begin, progress, and be finally completed. What is at the bottom of all these momentous changes that have so suddenly come to pass? Creative law demands that another life must be added to the vast and unthinkable myriads that have, and do occupy and people the earth.

A man is to be born, or a woman—which is it to be? Ah! another problem, another mystery to be solved. And all this, because a restless, wriggling thing has forced its way through certain windings and turnings of the female body, in search of a certain other thing upon which to bestow itself. Astonishing how straight it goes to its mark! They say it has no life, and yet to use a vulgarism, it “gets there all the same,” and immediately goes to work to do what it went for; one of the most wonderful works of creative law has to be made, and the time is limited wherein to complete it.

Nine calendar months make but a brief cycle of time wherein to construct the temple of a human soul. As the crowning fulfillment of the work of omnipotence, the word went forth “Let Us make man in Our own image.” He was made, and his making has been one of the most active of life’s industries ever since. The old sculptors, in order to test the fitness of a block of marble from which to create the marvellous and enduring images of life and beauty that still hold the eye of the most careless beholder, and stir his heart with an unusual thrill, unless he carries a gizzard in its place—we see many such, and are always reminded “How much the fool that has been sent to roam exceeds the fool that has been kept at home”—were accustomed to pass the thumb nail over it, whereby any inequality of its surface, or other unfitness for the chisel could easily be detected. Hence came the expression “*Homo factus ad unguem*”—a man made to the nail, a perfect man. If we could all spring out of the earth like the warriors, as told in the fable of the sowing of the teeth, armed cap-a-pie, against the cares and troubles of life, and could stand the nail test, how

much better it would be! But we must all come into the world in the same way. Spermatozooids differ in quality and degree. If heredity begins with them, or with the cells of the ovum, and if one or more of them, because, according to authority, it needs more than one to fecundate an ovum, should be endowed with unusual testicular vivacity and enterprise, their progeny would faithfully represent and illustrate the ancestral heritage through life. Who has not seen the pecuniary wriggler, whose whole life is a perpetual struggle for “filthy lucre?” His capacities for grasping it, by fair means or foul, are as with the hands of Briareus, and his grip is as that of the octopus! For it he would sacrifice his good name, his home, wife, children, friends, all and every thing. Should the door of a felon’s cell open, to let his mortal part pass out to fill a felon’s grave, pious hands may strew with flowers the mound of earth that hides him, but history records his epitaph: *Hic jacet nummus mortuus*. Here lies a dead dollar, counterfeit and spurious all through life; death at last hath stopped its currency.

The heredity of disease is here, too. The spermatozoid and the ovum cell may bring life, but they may poison that life by “the deeds done in the body,” and the first breath of the young life may pollute the air and breed infection. Here lurk syphilis, struma, and all the other acrid humors in the blood that blast and scar with hideous defilement. Insanity, too—that most grievous and pitiable of the inflictions of heredity—finds its lodgement here, if there be any truth in our theory of the beginnings of life. We have quoted the expression in Holy Writ—“The sins of the fathers shall be visited upon the children”—but, in using it, we did not supplement its remaining words, which read: “unto the third and fourth generation of them that hate me, and show mercy unto thousands in them that love me, and keep my commandments.” We are not of those who interpret these words as being the infliction of a curse upon mankind by an avenging Creator, which they certainly would be if literally interpreted. It would be inconceivable to ascribe such to the Great Exponent of love and mercy, and would make Him a monster of injustice and cruelty. The sins of the fathers are visited upon the children because of the violation of the obligations of *Lex Suprema*. “To show mercy unto thousands of them that love me and keep my commandments” is to show mercy unto thousands of those who keep inviolable the commandments that demand abstinence from things hurtful, and the strict observance of the laws whose purpose and whose tendency is to keep the “sound mind in the sound body.” The man who sets at naught such “commandments” does and will surely suffer. The laws of God are fixed, and in them there is no such thing as change. The sins of the fathers are of their own commission, and their progeny are the inevitable illustration of parental indulgence in those sins. To return: We left the fecundated ovum with its burthen of life ready

to start on its way wombward. Before it emerges from the ovary, let us recall for a moment what it is and of what it consists. To simplify it, and to avoid too much anatomical verbiage, the ovum is a cell or a capsule inclosing many cells. These last constitute its vitellus, and each cell of the vitellus has been vivified by spermatozoid impregnation. The ovum undergoes several changes as respects its contents soon after fecundation occurs, and before it is detached and seeks the womb. For most of these changes we refer the reader to authority. The change that especially interests our present inquiry is that which is called by Haeckel "the segmentation of the vitellus," by which is designated its subdivision into a large number of cells, and to which the name of "blastodermic cells" has been given. These are of special importance, because they are the true agents of organization, and their subsequent development into blastodermic layers—denominated epiblast, mesoblast and hypoblast—constitute the primary vitagenic cell operations, or, more properly, operators, to which are confided the construction and perfected completion of the foetal body while yet in utero. So, then, there are continuous cell operations proceeding uninterruptedly while the innumerable processes of foetal construction are going on. Should there be any impediment, or intermission, or delay from any intercurrent cause, or should the *fons et origo* of cell activity and vitality have been contaminated and polluted by any taint or imperfection of heredity, the processes of cell construction are modified, changed or even totally arrested, with the result of projecting, it may be, a monster upon the world, or a mass of corruption and decay, to be put out of sight with all possible haste.

A few morphanthropological comparisons might not be out of place here. At a certain period of the Palæozoic Age, before the evolution of the vertebrates, indeed, as far back as the Silurian, when, as in the case of the simple form of life—that of the sea worm, constructed of a string of cells—the time came for a greater development, and creative law demanded that this humble creature should assume a form that would more particularly characterize it as a living thing, and accordingly a greater activity was given to its cells, and as a result, a projection appeared at one of its extremities, which soon represented a head. This was one of the first steps in what is known now as cephalization—*κεφαλή*, a head.

"This resulted from the interior cells becoming more active and assuming newer functions adapted to the needs of the animal, and the enlarged anterior cell pushed out delicate lateral prolongations of its cell membrane, which gradually developed into additional locomotory appendages." The initiation of cephalization, even in this degraded form of life, presupposed and antedated what came on in due time in the regular order of progressive development, viz., the beginnings of a brain and nervous system. Do not the very same processes go on unceasingly in the

growing foetus as creative law demands development here, there and everywhere, in order to complete the wondrous organization it is now constructing? As cephalization and locomotion were provided to the humble life by cell activity, so must there be the same cell activity here, by the increase of innumerable cell activities. To every cell in the vitellus is assigned a specific function. No osteoblast can make other than bone, no myoblast can make other than muscle. One element succeeds another, whether of bone, muscle, or whatever it may be, accordingly as one or the other is most needed in the work of construction, and this goes on uninterruptedly during the whole plan and purpose of physical organization. One of the characteristic features of creative law is the law of use or utility. As the need occurs, so is it supplied. Cell force and cell activity seem indeed to be endowed with creative intelligence, and those portions of the physical foetal body that are to protect, support, and to control in the future body are among the first in which life begins, and the first to receive development and fitness for functional activity.

What is the great controlling principle of life through all its life? Is it not nerve force, that wondrous power from which emanate the innumerable activities of the body, mental and physical, and which, from the time it was first implanted in the body of the palæozoic mollusk, manifested its presence and its power in the progressive enlargement and improvement of the animal organizations upon which it was bestowed? Soon after the development of the chorda dorsalis or notochord—one among the very first structures observable in the growing embryo, and one from which the fundamental framework, or support of the body, the neural canal, or, as it afterwards becomes the vertebral column proceeds—the great stimulant of all vital activity, the nervous system, comes into existence, and is rapidly developed. From the first moment of its existence a new energy is set in motion, and then the real work of physical construction may be said to begin. Then follow in due order, as needs require, the intra-uterine vitagenic processes of building and constructing brain, cord, nerve, ganglia, bone, muscle, integument, organs, viscera, etc., until the new and just created homunculus is ready to step forth, and claim place among men of larger growth, who owe their being to the very same vital energies of cell life that have brought to the surface from recent intra-uterine depths, this fledgling candidate for whatever of good or evil may be his or her portion through life. Be that life short or of long duration, it will echo as true an expression of the brevity and evanescence of human life as was ever penned by man.

"Tempora labuntur tacitis que senescimus annis,
Et fugiunt freno, mon remorante dies."

To which we append a liberal translation: Time glides on, and we grow old in the silent years. Like the steed, unchecked by the restraining curb, so speed our fleeting days.

FEIGNED DUMBNESS IN HYSTERIA GRAVIS.

BY W. THORNTON PARKER, M. D.,
GROVELAND, MASS.

THE subject of feigned dumbness in hysteria is one which is very rarely found in the columns of the medical journals. A few remarkable cases, like that of the celebrated imposter, Victor Fay, recorded by Professor Beck, are to be found in our works on medical jurisprudence. But to find a young girl in a comfortable home making a pretence of dumbness with no discernible object in view can only be accounted for under the belief that the patient was suffering from a prolonged attack of hysteria.

There are those, and some of them are men of good professional reasoning, who very decidedly affirm that hysteria is nothing more or less than temporary emotional insanity.

What is insanity, and what is hysteria? Can we not answer each question fully by means of the same answer?

Insanity is the more or less prolonged departure from the modes of thinking and reasoning peculiar to the individual in a state of health.

Who has not many times witnessed the extraordinary conduct of the puerpera, amounting to decided insanity, although considered by many but simple hysteria?

The scholarly papers of Dr. Mary Putnam Jacobi concerning hysteria, which appeared in the *New York Medical Record* of 1886, would seem to make any further attempt at elucidation superfluous. Dr. G. L. Walton's admirable essay on hysteria in the "Reference Hand-book of the Medical Sciences" is more readily "get-at-able" and more clear in the description than any other of which we have knowledge, unless we except that of Dr. Charles K. Mills in "Pepper's System of Medicine." Yet, "Irritable weakness" hardly describes the condition met with in general practice, and certainly throws no light upon the pathology of this extraordinary affection. Dr. Walton very truly states that "the step from hysteria to insanity is often a *short one*, and hard to define," but nowhere does he advocate harsh or cruel methods in the treatment of these unfortunates. Electricity for the aphonia, and for the anæsthesia the inhalation of ether, tonics, exercise in the open air, good diet, and above all things rational mental diversion, these are the methods we have found best suited for treatment. Marriage is not an infallible remedy by any means, and it is cruelty and wickedness to link a man's life in such heavy cutting chains, and yet many cases are recorded in which marriage has resulted in cure. Generally speaking, hysteria is to be expected in families where from intermarriage, or from depressing nervous or other influences, the general family constitution is below par. I believe that normal healthy families living in security, and occupied with normal useful labor are rarely

visited with hysteria. The disease is the miserable offspring of run down constitutions, whatever may be the cause. It declares its presence in petulant, whining, complaining tones, and is capable of exerting such a baneful influence that whole families are rendered miserable, poverty-stricken, and even *bad*. Many a man of promise has been wrecked by a wife suffering from frequent hysterical attacks. He is often driven from home, forsaking property, business, profession, honor, until at last he dies the death of a drunkard and fills a pauper's grave. Until hysteria is recognized as a serious and dangerous form of insanity, and dealt with accordingly, homes will be blighted and ruined, and men made worse than widowers, and children worse than orphaned.

The following interesting case, very briefly stated, gives some idea of the difficulties in the treatment of a not very common form of hysteria, and also suggests that the morbid excitement of the ovaries which must result from nymphomania, acts disastrously on the brain and results in temporary insanity, or serious hysteria, call it whichever one will. If hysteria be considered by some nothing more than ovarian irritation, and if others consider serious ovarian irritation as the common cause of insanity in women, then we have a completed chain, in a few words, which gives quite as much practical information as the perusal of volumes on the origin and cause of hysteria: "Grief, fear, anger, and even great joy are capable of arresting menstruation, and probably ovulation also. In view of this great potentiality of the ovaries in developing certain capabilities of the brain and nervous system, and in influencing their functions, it is evident that in order to maintain harmonious action of the whole organization, it is necessary that the ovaries shall exist in full development and functional activity. *On the other hand*, these organs, which are essential to the well being of the individual, must, when diseased, exercise a potent influence in deranging the brain and nervous system."—*Skene*.

Miss H., a young girl about eighteen years of age, supposed to be a nymphomaniac for the past two years, came under my care September 23rd, 1889, suffering with hysterical aphonia and anæsthesia. Physical examination revealed a young lady of excellent physique, comely features, well developed breasts and thighs and extremities. Vaginal examination disclosed a widely opened vagina with sensitive clitoris. The vaginal canal was hard, leathery and dry, and suggested considerable injury from contact with foreign substances, probably inserted therein to induce sexual pleasure. The general condition has been very accurately described in that remarkable book, "Lycopathia Sexualis," Kraft-Ebing, and in this work the whole subject of perverted sexual instincts finds its most complete description. It is to be regretted that reputable medical men have avoided the discussion of this subject, and have often acted upon religious, rather than upon professional training in the care of such cases. Under the use of

ferruginous tonics, electricity, and physical and mental hygiene, she steadily improved. The patient, however, still refused to speak, or to abandon her solitary vices. After two or three weeks' care in her home, I found that her family were unable to properly carry out the treatment which I desired. Their affection getting the better of their judgment, they yielded continually to her wishes. On this account I recommended removal to the local hospital. The regulations of the institution were such that it was difficult even here for the family physician to retain full control of the patient, the nurses of the hospital looking to the medical staff for instruction more than to the attending physician.

On one of these occasions the patient was placed naked in a bath tub, and one of the hospital physicians dashed several pails of cold water on her back "to make her speak." This did not have the desired effect, and was discontinued as a proceeding too cruel to bear repetition in a civilized institution. On November 29th, I administered ether, and to my satisfaction she spoke distinctly and promised to be "good" and never to refuse to speak again. The patient had been confined to her bed with straight jacket and straps, but owing to some carelessness on the part of the attendants, she escaped and was found in the night wandering about in the snow covered streets, with bare feet and no other covering than her night dress. Her friends removed her from hospital care to her home and again called me in attendance; but I lost sight of the case some weeks after this, and later on she was sent to the State Asylum. The patient was seen before going to hospital in consultation with Dr. Weir Mitchell, of Philadelphia, who considered the case one of very great interest, and one exhibiting uncommon symptoms.

Besides the aphonia, very general anæsthesia was present. Pins could be thrust into any portion of the legs without apparently producing any pain.

The patient seemed to be otherwise a comely, intelligent, young girl, and the distressing condition commanded the sympathy of all who knew her. She made no secret of erratic desires and indulged in her secret vices whenever opportunity offered.

Very recently a letter has been received from the Superintendent of the hospital, giving the latest reports concerning this interesting case.

OFFICE OF THE SUPERINTENDENT,
May 14th, 1894.

Dear Doctor:—With regard to the case referred to, there is something of interest almost daily.

At times one is moved to pity, at times to disgust, by the various phases of her case. Aphasia is still in a degree persistent. At the time of her admission here—January 29, 1890—aphonia was a marked symptom, which soon yielded, however, to the interrupted current.

She then began self mutilation, refused to eat, and was fed twice daily with the stomach tube, for several weeks, and was given nux vomica and iron.

She then passed to a maniacal state, which lasted with

remissions and exacerbations for several months, when she gradually improved, so that she could be placed upon our best or hospital ward, and there recovered to such an extent that she sang in our choir for several Sundays. She also painted a few dainty little pieces.

Soon her sexual organization began to dominate her actions, and began to express itself in many disgusting ways, both in speech and behaviour. All sorts of extravagances of the imagination were indulged in; unsystematized ideas and delusions exhibited themselves. Pictures of the Prince of Wales and other royal persons, were cut from magazines and periodicals and enthroned as fetiches in a sexual way.

Her dress was always found carelessly left open, her limbs were exposed on every occasion when it could be made to appear semi-accidental, and masturbation was frequently resorted to. Her symptoms have been mostly psychical for the past year, and while there has been some improvement in her general condition, she still has extravagant ideas and delusions of exaltation in which the sexual element predominates, and which are in no sense systematized. She presents one of the most interesting cases of *Hysteria gravis* it has been my fortune to observe. I send you some of her letters, written only a short time ago, which you will please return after you are through with them.

Hoping this will give you a little idea of her present condition, I remain,

Respectfully yours,
—, M. D.

The following are copies of some of the letters which this unfortunate patient so often prepares and submits, by every possible artifice, to the attention of her physicians.

"Dear precious: Either send me home, or take me to your arms this night, and cure me for C. A., fruit, cake, jams, pie.—G. F. K."

"O, mother, my stomach is all full of wind. I am so hungry."

"R. S. H. Send me a chamber pot!!! Not even a chamber pot!"

"Haven't you got any passion? O, won't you take me to drive? O, George, it is nectar; if you will only break the ice between us and press your lips to my mouth, it is nectar, nectar, and you would never want anybody but me. O, love, all these three years I have waited for that. I have, truly, truly. That is all I want. Take me to drive. Say you are going to cheer me up by attentiveness. You can't; there are devils in me, but just press me to your mouth, and let me press you. O press me and press to let you know that I love you. I am possessed of the devil, truly, but I love you, and when I see you, I forget to speak, mind me."

"I used to paint my slipper and give it to the fellows to press to their heart, etc."

"How would you like to be as sick as I am, and be thrown into the presence of a lot of crazy women? You cannot imagine my awful distress. I am frightened to death. I shall never revive, so hurry. I shall never revive. I am frightened to a state of dementia. My mind is enfeebled and paralyzed. Send me a cup and saucer."

"This is an unheard of episode in the history of the world, an unheard of, unheard mystery, an unheard of history, romance, history on the history of the world."

In order to give up the whole of Ward's Island to the care of the insane, Ward's Island Hospital has been removed to Blackwell's Island, and will hereafter be known as the Metropolitan Hospital of New York.

NOTES ON DIAGNOSIS.

BY F. H. PRITCHARD, M.D., WEAVER'S CORNERS,
OHIO.

*Translated from the German, French, Italian and
Spanish Journals.*

Diagnosis of Traumatic Endocarditis—Dr. Lueckinger (*Il Raccoglitore Medico*, No. 13, 1893) observed a peasant who fell off a load of hay, broke his left leg and received a contusion of the left side of the thorax, without fracture of the ribs or appreciable visceral involvement. Three days after, he commenced to complain of palpitation of the heart and dyspnoea. The cardiac impulse was increased, the pulse small and weak, with systolic and diastolic murmurs at the apex, and pericardiac friction sounds over the right ventricle. In the following days, the area of cardiac dullness increased, with the characteristic triangular form, and endocardiac murmurs were audible in the left ventricle. High fever, with cyanosis and dyspnoea. After several days of these symptoms they gradually disappeared, and he complained of a stitching pain at the apex. Auscultation revealed a pleuritic friction sound, while a sacculated extravasation gradually formed. The endocarditis must have extended to the pericardium, thence to the pleura. Its origin is obscure.

Diagnosis of a New Form of Osteomyelitis.—Dr. Berger (*Revista de Ciencias Medicas de Barcelona*, No. 13, 1893), reported, before the Paris Surgical Society, the case of a young man of sixteen years, with a chronic osteomyelitis, where rapid necrosis of the bone was observed, so that amputation was rendered necessary. He first noticed dull pains in the arm, which were especially distinct during the day. Swelling soon followed, though during the entire course of the disease was neither febrile attack nor any other symptom remarked. On entering the hospital a fusiform enlargement of the upper arm, with profound fluctuation, was observed. On account of the absence of febrile phenomena, an osteosarcoma was diagnosed. A trial incision revealed a thickened periosteal sheath, filled with pus. The bone was denuded in its whole circumference and half its length, and the medullary canal was filled with a blackish marrow, denoting total necrosis. No pus. The operation was followed by a short febrile reaction. Ten days later a spontaneous fracture occurred, and the arm was immobilized. The integument and soft parts became infiltrated and pale, and the fever was considerable. Disarticulation revealed the bone broken into about ten pieces and bathed in pus. This clinical picture is not in correspondence with any known form of osteomyelitis. The acute form is always accompanied by acute fever, while the chronic is associated with hyperostosis and sacculated abscesses, and though it is fre-

quently febrile, it does not produce from the beginning total diaphysic necrosis of the bone.

Diagnosis of Weil's Disease.—Dr. Fiedler (*Il Raccoglitore Medico*, No. 15, 1893) states that this affection is a well determined disease, corresponding to the bilious typhoid described by Griesinger, which affects particularly males, and prevails chiefly in the summer. It begins suddenly, without prodromic symptoms, with intense rigors, and followed by headache, a grave general condition, fever, disorders of the digestive tract, intense muscular pains, especially in the calves of the legs, and from the third to the seventh day with icterus, accompanied by tumefaction of the and sensitiveness of the region of the liver. With that the disease acquires its whole entity. The fever runs a typical course, with elevation of temperature, for eight to twelve days, and gradually descends to the normal, while the pulse, at first accelerated, becomes quite slow and dicrotic, when the icterus appears; after five to eight days, in two-fifths of the cases there may be a second and even a third elevation. There is always associated an acute nephritis, sometimes of a hemorrhagic character, the urine peculiarly diminished at first, and containing albumen and biliary elements. The spleen, almost always enlarged, and distinctly so at the beginning, often attains considerable size. Herpes, erythema or epistaxis are observed, and in grave cases, hematuria, sanguinolent sputa, subcutaneous and submucous hemorrhages, while very rarely, catarrhal affections of the respiratory tract are observed. Prognosis is good, though recovery may be slow. It has long been known in Germany under the name of Weil's disease, who described it first in 1886, though Landouzy had called attention to it under the term hepatic typhoid fever, in 1883.

Diagnosis of Transitory Pneumonic Aphasia.—Dr. Chantemesse (*La Semaine Médicale*, No. 73, 1893,) describes a curious complication of pneumonia which, on account of a false diagnosis, might give rise to erroneous conclusions. In this disease, as in many toxic or infectious affections, aphasic phenomena of longer or shorter duration may be seen. Some are due to material lesions, while others, on account of their short duration, cannot be attributed to an anatomical affection of the nervous centres. Generally at the end of the second or third day of the disease, the aphasia appears, it being ordinarily preceded by headache, vertigo even to syncope, or slight giddiness, sense of formication in the right side of the face and right arm. It may either appear suddenly, without loss of consciousness, or resemble an apoplectic seizure. The aphasia presents all the symptoms of the ataxic variety; lesion of the third frontal convolution. The right lower facial nerve is also paralyzed, and, in some cases, there may be a paralysis of the right arm, of the same side. The tendinous reflexes and sensations are but little affected. Vaso-motor symptoms are added; in intense cases the paralyzed limbs are reddened, there is more or less

localized œdema, and often an increase in temperature. These paralytic phenomena do not appear to modify the course of the pneumonia. Their duration is but short, for they disappear either within a few hours or after four to five days, at the most. The facial paralysis, as a rule, ceases with the aphasia, but that of the arms, if present, requires sometimes several weeks. There is no material lesion, as an exudate or a softening, nor is it hysteria awakened by the infectious disease, for it does not resemble aphasia complicated by hysteric mutism, which leaves the intelligence intact and is not complicated by agraphia, while pneumonic aphasia develops with symptoms pointing to functional, though not profound, involvement of the third left convolution. In all these cases the pneumonia was on the right side.

Diagnosis of Thrombosis of the Superior Vena Cava.—Prof. Comby, (*La Semaine Médicale*, No. 73, 1893), of Paris, presented before the Biological Society of that city, a patient of thirty-six years, who was affected with an obliteration of the superior vena cava for over three years. On account of the development of numerous collateral veins, circulation is sufficiently re-established so that the œdema which formerly involved the whole of the upper part of the body has disappeared. Now there only remains a slight embarrassment of respiration, which is increased by motion. There is every probability that this is due to a tumor in the mediastinum, probably of a benign character, which impinges upon the superior vena cava. The favorable evolution of the disease permits one to exclude cancer and aneurism, and there only remain possible a fibromatous production, or a tracheo-bronchial glandular enlargement which has become sclerotic or calcified. The prognosis is less grave than is generally thought.

Diagnosis of Cancer of the Liver. A Rare Symptom.—Dr. M. Collier (*La Semaine Médicale*, No. 72, 1893) was consulted by a man of fifty-three years, who, for three months, had experienced difficulty in swallowing food. Syphilis was denied, and though in the best of health, apparently, he had seen several physicians, without an exact diagnosis being possible. Iodide of potash was given, for supposed ignored or latent syphilis, but without success. A malignant cancerous stricture being diagnosed he was sent to the hospital to have gastrotomy performed. Then he was very much emaciated, as he had not been able to swallow food for three weeks, he being so weak that he could scarcely talk. Having him swallow some water, this was immediately ejected, and not after some time, as is usual in organic œsophageal stricture. An œsophageal sound was introduced into the stomach without much difficulty. He was fed with this tube and began to improve, when he succumbed to a fibrinous pneumonia. The necropsy revealed a voluminous cancer of the liver, while the larynx, stomach, œsophagus and mediastinum were uninvolved. It was certainly a reflex spasm of the œsophagus

from the hepatic cancer. He has also found four other similar cases. Treves related three cases of apparent stricture of the œsophagus, where the affection was due to a reflex spasm from cancer of the liver.

Diagnosis of Empyema in Children.—Professor D. Andres Martinez Vargasz (*Archivos de Ginecologia e Pediatria*, Nos. 35-36, 1893) calls attention to the value of the following signs in the diagnosis of empyema in children: Increased dullness, and sometimes tympanic resonance, immobility of the thoracic wall, dislocation of the heart, bronchial respiration, a dry and repressed cough, increase in volume of the intercostal spaces, or even partial bulging. In case of doubt, exploratory puncture will clear up the case. Encysted pyema is distinguished with difficulty from pneumonia, but it is very rare in children. If, in a lung affected, stertorous rales are heard all over, except in a little zone, sacculated empyema is present. Pulsating empyema was formerly confounded with an aortic aneurism. The pulsation is generally very feeble, and the area of dullness very extensive. Such an extensive aneurism would produce vast pulsations, and the aneurysmal murmur would be present. It is also to be confused with pneumonia, but here the percussion sound is not so dull, the heart is not displaced, the vibrations of the voice are not diminished, but augmented; there are hoarse and rhoncosal rales, and the vesicular murmur is not absent; the cough is not painful, nor dry, nor repressed; there is no painfulness on percussion, nor no distension of intercostal spaces. Pneumonia with splenization is rare in children. In adults it commences suddenly, with severe rigors, great pain in the side of the chest, and very painful cough. When expectoration has been once well established, the sputa resemble a solution of gum arabic. On auscultation, one may hear in the zone of dullness, subcrepitant rales, which are but slight, superficial, and transitory. The vibrations of the thoracic walls also vary. In an effusion they suddenly are observed at the line of dullness, and are exaggerated, while in spleno-pneumonia they appear but slowly, and with but slight intensity. Egophony is also but slightly pronounced. Pulmonary tuberculosis will be of easy diagnosis, where the lesions are bilateral, predominating in the apices, with bronchial breathing, exaggeration of the fremitus, enlargement of the small lymphatic glands, etc.; but, in those obscure cases where a large portion of the lung is invaded, as a whole lobe, and produces thoracic immobility, absolute dullness, dislocation of the heart, etc., diagnosis will be difficult. Hydatid cysts are infrequent in children. Their development is slow, the pain very persistent, egophony is absent, the cough is paroxysmal, and dyspnoea and the suffocating attacks come on with increasing violence. Exploratory puncture is decisive.

Diagnosis of Actinomycosis.—Dr. G. Englemann (*Medizinische Neuigkeiten*, No. 1, 1894)

has observed two cases of actinomycosis of the neck and face, and four involving the abdomen. The swelling is hard, protuberant, the skin reddened or partially livid, especially if of long duration. It was not in places, not to be displaced, and felt doughy and infiltrated. The tumors were mostly sensitive to pressure, were partly as hard as bone, and in other parts they were softer, even nearly to fluctuation. If near the bone, they were usually adherent, and not to be distinctly outlined from it, while the bone itself was neither sensitive to pressure nor swollen. The fistulæ gave issue to a thin and purulent discharge, containing broken down tissues and yellowish granules. No lymphatic enlargements, even in the vicinity of the tumors, could be made out, which is characteristic of actinomycosis. Incision into the tumors, with profuse parenchymatous hemorrhage, revealed firm band of cicatricial tissue of a grayish white color, inclosing, like nests, larger and smaller hollow spaces and canals filled with degenerated fatty tissue, and yielding a thin and scanty fluid, with here and there yellowish granules of the size of a grain of sand. These bands, in contrast with other infectious processes, do not seem to extend through the interstices of the tissues, but to spread out and involve, one after another, muscle, tendon, fasciæ, organs, periosteum, but not the bone itself. The actinomyces themselves are not pus producers, but there is prone to be a mixed infection, the pyogenic germs entering through the digestive tract. In one case the disease was limited to the sub and retro-maxillary regions, and in the second, the ascending ramus of the jaw was involved so that the tumor, as hard as bone, extended up into the temporal region and under the zygoma, into the orbit. In both cases, there was a certain degree of lockjaw from implication of the muscles of mastication. In the cases of abdominal actinomycosis, the clinical picture presented different variations. The disease proceeded from the intestine. Constipation, diarrhoea and pain had preceded the appearance of the tumors, and in three the cœcum, especially the vermiform appendix, was the original seat of the primary process. It adhered to the peritoneum, extended to the external abdominal muscles and formed the characteristic brawny masses, surrounded by granulating tissues. In several cases there were larger or smaller pus pockets, and, in one case, there was a direct communication with the intestine.

Diagnostic Value of Enlarged Supra-Clavicular Glands.—Prof. Comby, (*La France Médicale*, No. 50, 1893) communicated to the Paris Hospital Society, a case of right sided hemorrhagic pleurisy, in a woman of fifty-seven years, without hereditary history of any importance, and, in whom the presence of the enlarged supra-clavicular gland enabled him to announce the cancerous nature of the axillary pleurisy, and predict death in the near future. The patient, who was very cachectic, soon died. Dr. F. Vidal demonstrated a supra-clavicular cancerous gland which

he had found, at a necropsy, in a case of cancer of the stomach. It was situated behind the sterno-mastoid muscle, but it was not noticed during life, for lack of systematic search. These enlarged glands are more frequently present than is thought, as they are not always to be discovered.

Dr. Gaillard (*La Semaine Médicale*, No. 1, 1894), related a similar case, in a woman of sixty-three years, who resembled a consumptive in the last stages, yet whose lungs were not affected. There was only an effusion at the base of the left lung, with the disseminated râles of bronchitis. In the left supra-clavicular space, below, and to the outside of the sterno-mastoid, there was a single enlarged gland, which was not adherent, indurated, indolent, rolling under the finger, and of the size of a marble. The sputa were purulent; no tubercle bacilli were discovered, but many pneumococci. She succumbed to an attack of suffocation, and the necropsy revealed a tubular epithelioma, originating in the vestiges of the thymus gland. The other organs were normal. Two or three other smaller enlarged glands were near the largest one.

CLINIQUE.

A CASE OF TRANSPOSITION OF THE VISCERA.

METROPOLITAN HOSPITAL, BLACKWELL'S ISLAND, NEW YORK—SERVICE OF
DR. ALFRED K. HILLS.

Reported by Drs. Edgar A. Grafton and F. Walter Brierly, of the House Staff.

ON May 7th of the present year Alice F—, came into the hospital, complaining of a small ulcer on the left leg. This being a slight lesion, and as she was very weak and short of breath, she was transferred to the female medical ward. She was a widow, aged forty-five, was born in Ireland, and was employed as a servant. She knew nothing about the time or cause of death of either of her parents, or of her brothers and sisters. All of her past history that could be obtained was, that fifteen years ago she had facial erysipelas, and that for years she had been subject to "palpitation of the heart" and smothering spells.

At the time of her admission, her urine was slightly decreased and showed a trace of albumen. The legs were swollen from the knees down, and she complained of great pain at the angle of the right scapula. The pulse was small, rapid, irregular, and of high tension, and the malar region greatly flushed.

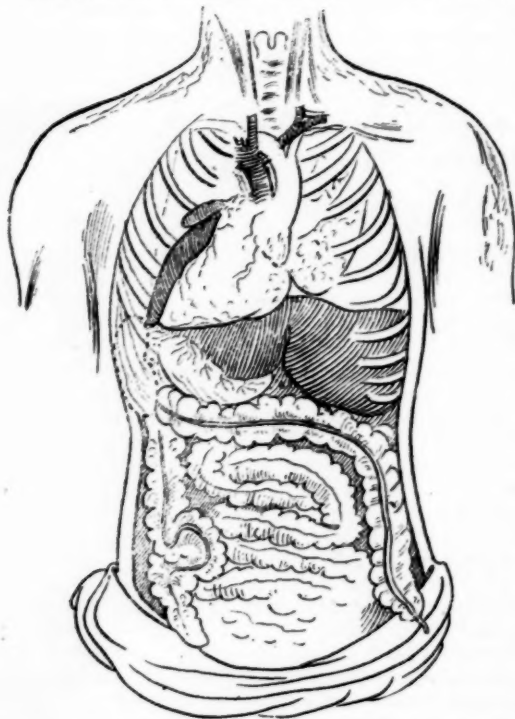
But it was the physical examination that showed this case to be an exceedingly interesting one. In seeking to outline the heart, a well pronounced vesicular note was produced all over the usual precordial space; but on the right side, in the sixth intercostal space, and slightly outside the line of the nipple, was found the apex beat.

At the apex was best heard a very loud, systolic murmur, well transmitted over the right chest. At the mid-sternum was heard another softer murmur, and there was a decided pulsation of the cervical veins. On the *left* side, from the sixth rib to the lower border of the ribs, and extending across the epigastric region, was a perfectly flat percussion note, passing abruptly at its lower border into a high pitched tympanitic sound. Over the right hypochondriac and lower epigastric regions a loud, low pitched, tympanitic note was produced.

On the right side, between the axillary lines, and extending from the eighth to the twelfth rib, was a dull percussion note.

In the evening of May 22d she had a severe chill and an attack of angina pectoris, followed by a profuse expectoration of bright red frothy fluid. This continued during the next morning. Large moist rales and other symptoms of collapse rapidly ensued, and she died on the afternoon of May 23d.

This patient was right-handed. F. W. B.



Autopsy Report, Alice F.—(Autopsy performed twelve hours after death.)—Body that of a well-nourished woman; rigor mortis absent in upper extremities, but present in lower; hypostatic congestion marked; lower extremities oedematous; on left leg is a small ulcer surrounded by an area of darkened skin.

The thoracic and abdominal viscera are completely transposed, the heart occupying a relatively normal position on the right side.

The liver occupies a position on the left side, while the stomach and spleen are on the right.

The head of the pancreas is directed towards the left and encircled by the duodenum.

The cæcum and vermiform appendix are found in the left iliac fossa, while the rectum passes into the pelvis from the right side.

Heart, weight 14 ozs. (What is ordinarily called the left side of the heart is directed towards the right and *vice versa*) feels soft and flabby and is covered with a very small amount of fat; cavities dilated; walls very pale and thin and somewhat friable.

Aortic valves normal, slight atheromatous condition of orifice of aorta.

Mitral valves thickened, posterior cusp very much shortened, chordæ tendineæ lengthened.

Right heart contains ante-mortem clot; on edges of all three segments of tricuspid valves are thick fibrous vegetations from which small particles are easily detached. Pulmonary valves normal.

Right lung, weight 32 ozs. Apex bound down by adhesions. This lung is divided into two lobes. It is congested and markedly oedematous throughout, and a blood-stained frothy fluid may be expressed from it.

Left lung, weight 32 ozs. Firmly bound down by adhesions, especially at apex. This lung has three lobes. The upper part of upper lobe is consolidated and dark red in color; on scraping, a dark red fluid and minute granular particles are removed; sections sink in water. Middle and lower lobes are markedly oedematous.

Aorta passes down on right side of vertebral column, œsophagus on left crossing to right to pierce the diaphragm. Innominate artery crosses from right to left, dividing into left common carotid and left sub-clavian.

Right carotid and right sub-clavian appear as separate trunks.

Liver, weight 69 ozs.; shows slight fatty changes; gall bladder distended with bile.

Spleen, weight 23 ozs. Attached are two supernumerary spleens the size of hickory nuts, color normal, consistency soft and friable.

Stomach contracted, vessels injected, otherwise normal in appearance. Right kidney movable, weight 7½ ozs. Capsule adherent, cortex considerably thickened and pale, pyramids very much congested and distinctly outlined.

Left kidney, weight 8½ ozs. Capsule strongly adherent, cortex thickened and pale, pyramids congested and distinctly outlined. Intestines much distended with gas. Uterus and appendages shows nothing abnormal.

Apart from the transposition of the viscera, this case is interesting as showing the rapidity with which consolidation takes place in acute pneumonia, death having occurred in eighteen hours after the primary chill, and yet the greater part of the upper lobe of left lung showed red hepatization.

The marked evidences of the disease of the tricuspid valve is also a point of some interest.

ATRESIA VAGINÆ.*

By W. H. WATHEN, M. D.

FOUR weeks ago I operated upon a married lady from Louisiana for atresia vaginæ of the upper half, the lower half being normal. By an examination through the rectum and bladder it was impossible to decide positively whether there was congenital absence of the upper part of the vagina, or whether there was simply atresia resulting from inflammation, with atrophy and thinning of the walls. The uterus was normal in size, and the ovaries and tubes apparently normal. She was perfectly developed in other respects—a bright, intelligent and accomplished woman. Her menstrual periods had been regular, though very painful and prolonged. I found a fistulous opening through which I could introduce only the smallest probe, entering the vagina on the left side, and through this the menstrual discharge came away. A small uterine dilator was forced into this opening and the blades spread, making an opening large enough to introduce my finger. With the handle of a scalpel the united surfaces at the upper part of the vagina were divided, and then with my finger I began dissecting above, and discovered that I was not separating an adherent vagina, but was separating through connective tissue uniting the bladder with the rectum, showing that there was congenital absence of the upper half of the vagina. I finally reached the uterus, and continued dissecting through the connective tissue until I had opened into Douglas' pouch. This allowed the uterus to come lower in the pelvis between the rectum and the bladder, and brought the os uteri near the vaginal tissue proper.

There was but little hemorrhage, and the cavity was tamponed gently with iodoform gauze. She had no untoward symptom; no elevation of temperature nor acceleration of pulse; she suffered no pain—absolutely in a normal condition; the dressings were changed every two days; the peritoneal wound healed completely, and the mouth of the uterus was down nearly to the vagina. She menstruated while at the Infirmary, and had no pain; the flow lasted about half as long as had been customary before the operation. She left the Infirmary two weeks after the operation with the cervix firmly fixed, the os large enough to allow the introduction of end of my finger, and she was in every way feeling perfectly well. Had I not opened the peritoneal cavity the uterus would probably not have come down lower than it was, and the separated space between the bladder and rectum would have retracted until possibly there would have finally been but a small fistulous opening, and the woman would have suffered with painful menstruation as in the past. But by separating into the peritoneal cavity, allowing the uterus to come down, it will do away permanently with any trouble in menstruation. But

there is a question about which I have serious doubts in this case, viz.: the ability of this woman to give birth to a child through the vagina, because the uterus is not attached to the vagina; it is attached only in front to the bladder, behind to the rectum, and at the sides to the connective tissue of the pelvis and the broad ligaments. I believe that were she to go into labor at term there would be danger of serious injury; the uterus when contracting and pressing the child outward would, because of feeble vaginal attachments, cause the cervix to become torn from the pelvic structures, and allow the child to pass into the peritoneal cavity, necessitating an abdominal section. With this belief I advised against her becoming pregnant, and told her husband the dangers such a condition might entail.

I have had two cases of total congenital absence of the vagina; one in a lady, living in the southern part of the State, who is otherwise perfectly developed; breasts, vulva, etc., and having all the feelings of a perfect woman in relation to the opposite sex; neither vagina or uterus could be detected, although it is claimed by some authorities that there is always some of the uterus present in these cases, but it is very small. Her ovaries and tubes could be distinctly outlined.

The other case is a little girl of a prominent family in this city, where there is entire congenital absence of the vagina, with presence of the ovaries, and a very diminutive uterus. As the child is but four years of age, and as the uterus is at this age very small, when she develops into womanhood it may develop sufficiently for menstruation, which will have no outlet.

I report these cases because they are not of usual occurrence; many busy physicians may practice for many years, and not see such a case. I have seen but these three cases. It is not a very uncommon thing to see acquired atresia of the vagina, resulting from specific infection, from infection following childbirth, from infection of measles, small pox or even diphtheria, and one reason why I thought the last case upon whom I operated was acquired adherent vagina was, because her husband told me that when she was eight years old she suffered with a severe attack of diphtheria, and had some vaginal discharge. The vagina, uterus, and tubes are developed from the ducts of Mueller, from above downward. We may have absence of the upper, middle or lower part of the vagina, but we very seldom have absence of the middle of the vagina with the upper and lower parts existing, and as a rule we have either entire absence of the vagina, or only the upper or lower part. The vagina may be absent, and the uterus fully developed; or the vagina may be absent, and the uterus apparently absent. With entire absence of the vagina, with the presence of the uterus and ovaries well developed, the better treatment would be to remove both the uterus and ovaries, as they could be of no use to the woman, and might cause her a great deal of pain and suffering, and even death. If you were to attempt to establish a

* The Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes.

vagina in a case of this kind, you would have great difficulty in reaching the uterus, and opening the parts well without danger of injuring the rectum and bladder, especially so if the union of these two organs happened to be such as to require any instrument except the fingers in separating them. When an opening is made, contraction will gradually take place, until you will have practically nothing better than a fistulous opening. In acquired atresia of course we may by operation in many instances re-establish the vagina.

APPENDICITIS.

BY H. T. MILLER, M. D., SPRINGFIELD, O.

APPENDICITIS at the present moment is an interesting subject in both the lay and medical press. This is owing to the fact that it has only latterly been recognized as a distinct disease, and that it should be so classified is owing to the efforts of American surgeons. The earlier writers attributed the cause of appendicitis to the presence of some foreign element in the appendix. The later ones to ptomaines. In fact, Morris says that a foreign element is rarely, if ever, found in the appendix.

Notwithstanding the arguments as to the cause of appendicitis, it has been properly placed in the domain of surgery. It is distinctly a surgical disease, and once the diagnosis is made beyond the shadow of a doubt, delay in surgical interference is reprehensible ignorance.

Chronic appendicitis has been mistaken for a cancer of the cæcum, involving the appendix, floating kidney and right iliac enteralgia. Within the last six weeks three of the most noted contributors to the literature on appendicitis erred in their diagnosis. Two were quite certain that the case was one of appendicitis, while the other was quite as positive that it was a floating kidney. The following is a brief description of this interesting case:

From all that I could elicit from the patient, he had suffered from an acute attack of appendicitis about three years ago, lasting about six weeks. After the attack he was able to attend to his vocation, but was a constant sufferer from pain in the right iliac fossa, severe enough at times to incapacitate him. He was compelled to restrict himself to a liquid diet, as all food having much of a residue would result in pain. At times, the introduction of the right hand in the trouser pocket would excite pain. This caused him to walk with his body slightly bent forward. The dejections were passed in a thin stream. The urine was diminished in quantity. This may have been owing to one of two causes, either from the small quantity of water he drank, or the involvement of the right ureter in the tumefaction. There were chills, fever and sweats, at different times, attributed to the ptomaines in the appendix. An examination revealed an enlargement in the right

iliac fossa, about the size of a lemon, slightly movable. The ureter could be felt running from the mass as an enlarged tube. What was supposed to be the appendix could be felt under the finger, between the mass and the abdominal parities. The patient was markedly emaciated. The right kidney had a play of about two inches; probably a wasting away of its bed of fat. An operation performed about six weeks ago revealed a carcinoma of the cæcum. This, with the appendix and seven inches of the intestine, was removed. In a case of right iliac enteralgia, mistaken for adhesions around the appendix, I found that eating and pressure over the seat of pain gave relief. This in a case of appendicitis, with adhesions, would invariably excite pain. This, I think, can be explained in this manner: Food in the intestinal tract induces peristaltic action. This, in turn, produces pain, by the drawing on the adhesions. It can readily be seen, that external pressure will have the same effect as the elicitation of pain, by drawing on the adhesions.

In appendicitis, with adhesions, the patient is rarely, if ever, entirely free from dull pain, while in enteralgia there are periods of absolute freedom from all semblance of pain. I have known a patient to get on a train here suffering from severe pain in the right iliac fossa, get off in Florida entirely free from pain, while in a case of chronic appendicitis, travel gave but little relief. In this case of right iliac enteralgia—diagnosed chronic appendicitis, by an eminent surgeon—boating, riding and rough camp life afforded relief, while in the case of chronic appendicitis, with adhesions, the least over-exertion was apprehended with alarm. Sedentary life and worry over business affairs would provoke an attack of enteralgia. In the case of chronic appendicitis this made but little difference. The following case is not without interest, as to the proper course to pursue in the treatment of appendicitis:

On March 20th, I was called to see a lad, who had returned from school the previous evening suffering from pain in the right iliac fossa. I found a temperature of 100° F., pulse 100, vomiting, some diarrhoea, slight tympanities, and dullness with pain under McBurney's point. I diagnosed the case as appendicitis, and deemed an operation imperative. It is quite evident that the mass of people must be educated up to the full recognition of the gravity of appendicitis, and the absolute necessity of an immediate operation.

On April 1st, counsel coincided with the diagnosis made, and also advised an operation. On the second, other counsel was called in at the request of the family. Out of courtesy, I imagine, he agreed with the diagnosis of appendicitis, for the course he pursued in the treatment of the case from the very beginning led me to believe that he considered the case to be a typhlitis stercoralis, from the fact that he discountenanced an operation, and gave calomel, opium and linseed oil. A slight abeyance in the severity of the symptoms led the parents to believe that my

counsel was on the right track, and that I was over anxious for an operation. So on the 8th I retired from the case. Reports at intervals were, that the patient was improving. Indeed, my successor informed me that the temperature was normal, the pulse 80, bowels first rate, appetite fair, and only slight tympanities, and on the whole, the patient was improving. This was not a little to my consternation, for I had been most emphatic in advising an operation. On the 20th (April) the attending physician requested me to see the case with him. I found the patient in articulo mortis, and on the 25th, he died of perforative peritonitis. In this case there was time for an operation up to the eighth day. Soon after, in my mind, he was in a bad way for any such procedure.

REMOVAL OF RETAINED TESTICLE*

BY W. L. RODMAN, M.D., LOUISVILLE, KY.

THIS is a small testicle which has been retained in the inguinal canal (right side) of a young man of twenty years of age. He suffered at times with pain and dyspeptic symptoms, lasting occasionally for a month or two. The testicle would become inflamed, and he would be unable to attend to his work. I saw the patient four or five times before I made up my mind to remove the testicle. I do not know that I should have hesitated, for I believe on general principles that all retained testicles should be removed at once, as they are functionally inactive. There is very little danger in the operation, and no possible good can result from leaving them in the canal. Further, they are very prone to undergo malignant degeneration. I made this statement to the patient, but he did not like to give up his work to be operated upon. However, last Sunday he came to my office and said he had decided to have the testicle removed. The operation was very easily and quickly performed, and the patient has never had an untoward symptom. You will see that the testicle is very small, weighing, I suppose, about three drachms. This is the second or third case of retained testicle that I have operated upon in the last year.

SOCIETY REPORTS.

REPORT OF FRENCH SCIENTIFIC SOCIETIES.

BIOLOGICAL SOCIETY.

President, M. Dejerine.

Mechanism of Pancreatic Diabetes.—M. Kaufmann, pursuing his researches upon the above disease, has concluded, by experimentation upon a dog, that the pancreas exercises a controlling action upon the glycogenic secretion of the liver. In effect, the complete ablation of this organ determines hyperglycemia, and also the same of glycosuria. This double effect having been observed after the section of all the nerves of the liver, it results that the pancreas acts by its internal secretion when it limits the quantity of sugar produced by the liver.

* Stenographically reported for this journal by C. C. Mapes.

Treatment of the Vertigo of Ménière.—M. Charcot's treatment of the vertigo in Ménière's disease, is familiar to all. His object was to substitute for the intolerable noises which constitute the principal permanent symptom of this disease, the auditory phenomena that the prolonged employment of the sulphate of quinine, in increasing doses produces. This treatment has given relief to many sufferers. Sixty years ago, the same principle suggested itself to Itard in a particular case. Bosquet, in his eulogium of Itard before the Academy of Medicine, tells the story of a woman who became affected with continual noises in her ears, as a result of fright from a fire. M. Itard believed that the auditory sense was in turn affected by the imagination, and advised the patient to live near a factory, hoping that the ear, when assailed by new noises, would recover its faculties from the confusion produced by the new impressions, an effect which soon came to pass. The author philosophically adds (?) "Thus, in order to extinguish one passion, it becomes wise to excite another." There are those who would consider this an application of the axiom "Similia similibus curantur."

Apropos of Cocaine.—In a report made to the "Société de Chirurgie," by Dr. Reclus, of a case of death due to the careless employment of cocaine, he asks if the rules which regulate the administration of this valuable anesthetic are sufficiently familiar to the medical public. Dr. Reclus' report, and the discussion which followed, are well calculated to continue our doubts upon this subject. He cited a case of a man, seventy-two years of age, affected with arterio-sclerosis, in whom a physician, with the view of facilitating catheterism, injected into the urethra 20 grammes of a five per cent. solution of cocaine. Death immediately ensued, and the operator was so astounded by the result, that he thought it his duty to report the case to the Surgical Society, at the same time insisting that he administered a moderate dose of the cocaine. To him M. Reclus responded by saying: "You ought rather to say, a foolish dose." Those most experienced in the daily use of this alkaloid, agree with M. Reclus that it should be employed according to certain inflexible rules. The solution for hypodermic injections should be from 1-100 to 2-100 at the utmost. Stronger solutions should never be used; and surgeons, generally, are unanimously agreed upon this point. The accidents that supervene are invariably due to too strong doses. This particularly applies to hypodermic injections. A solution of cocaine applied to a mucous surface, is more or less rapidly absorbed, according to the nature of the mucous membrane, in view of its special physiological properties. In the case reported the mucous surface was that of the urethra, which, in all cases, absorbs more rapidly than that of the bladder, and, moreover, consideration should be given to the possible raw surfaces of the canal in its narrow or prostatic portions. Dubuc operated in five cases of lithotripsy, after injecting 30 grammes of a solution of five per cent. into the bladder, when inflamed, and ten into the healthy bladder.

The Toxic and Bactericidal Power of the Organic Compounds of the Bichloride of Mercury.—M. Desesquelles has investigated this subject, and has found that in a series of those bodies in which there are phenol and naphthol, that the bactericidal power is more considerable than in the sublimate, and that their toxic power does not increase in the same proportion.

M. Gilbert stated the influence of a milk regimen upon the number of microbes found in the alimentary canal. In the dog, subjected to a milk diet, there was a considerable diminution in the number found in the stomach. This fact was constant, and explained the good effects of the regimen in gastritis or even in uræmia, the milk acting as an antiseptic, and ridding the digestive tube of the toxins secreted in such abundance by the microbes, and which, in uræmia, add another poisonous effect to those already existing. M. Richet thought that the milk becomes antiseptic by reason of the formation of lactic acid.

Hydrogen in the Blood.—M. Giehan communicated a fact whose solution he was unable to give. He detected

the presence of hydrogen among the number of gases in the blood; the quantity of it was very minute, and he was undecided whether it proceeded from a butyric fermentation, or if it entered the blood through intestinal absorption.

M. Lapique discussed the quantity of azote necessary for existence, and to compensate for its normal loss, and its requirement to sustain the vital energies. Experiments made upon two subjects, indicated that the equilibrium of azote was sensibly obtained by the daily use of 57 grammes of albumen.

The Pathogenic Microbe of Dysentery.—M. Arnault sent a communication upon the above subject: Morphologically it resembled the bacillus coli, but was more virulent; particularly was this apparent in a dog, in which he reproduced an affection very similar to dysentery.

ACADEMY OF MEDICINE.

President, M. Rochard.

The Dangers of Mineral Waters.—M. Robin recalled the communication made by M. Moissan at the last meeting. He showed that the microbic infection of mineral waters was due especially to their gaseous condition, to the bottling and the decanting of them. The conclusions arrived at were: (1st.) To impose an authorized inspection upon all waters submitted to decantation and gasification. (2nd.) To refuse authority to use any water which contained a pathogenic bacillus. (3rd.) To give to the laboratory of the Academy the means of making a bacteriological analysis of all mineral waters submitted for their approval. (4th.) To avert during an epidemic, the dangers that mineral waters may produce, and to authorize the sale only of those whose microbic purity is perfect.

The conclusions of M. Robin's report were adopted by the Society.

Prosthesis of the Scapulo-Humeral Articulation.—M. Pean cited a number of instances in which he has replaced portions of necrosed bone by the operation now known as prosthesis. In one case of a scapulo-humeral white tumor, he resected the entire upper half of the humerus. He would have preferred disarticulation, but the patient refused to submit to it. In order to repair the large osseous deficiency, M. Pean employed an apparatus of hardened caoutchouc and platina. To make the pieces unalterable by the action of the liquids of the organism, they were boiled twenty-four hours in paraffine. The articular capsule and periosteum were sutured to the apparatus by catgut suture of the muscles and skin, and drainage. The apparatus, although complicated, was well borne. The patient got up on the second day of the operation, and left the hospital on the seventh day. When presented before the Academy, he executed a series of movements, which showed the facility and completeness of the functional uses of his prosthetic articulation.

Poisoning by the Oxide of Carbon.—M. Moissan cited the fatal cases—happily rare—of intoxication by the oxide of carbon, to show the danger of the slow, but long continued poisoning from the same cause. An infinitesimal quantity of the gas was sufficient to produce it. These effects are frequent in large cities, not only from heated vehicles, but from defectively heated apartments, and from the contamination of the air in manufacturing towns. It has been said that the oxide of carbon was lighter than the air, and hence was soon conveyed to the upper atmosphere. The experiments of M. Moissan have demonstrated that the mixture of the oxide of carbon and carbonic acid, such as proceeds from chimneys, is heavier than the air, and in calm weather falls to the ground. The poisonous effect from this cause may play an important part in the pathology of large cities. M. Gautier urged the importance of M. Moissan's communication. He, himself, had succeeded in demonstrating, by a new process, which detected even the one ten-thousandth of the oxide of carbon in the air, that the open atmosphere of Paris, especially in the manufacturing quarters, was contaminated by the oxide of carbon, and believed that it was a powerful cause of this form of poisoning. M. Bergeron thought that the clinical consequences shown by M.

Moissan's experiences should urge the Academy to a more vigorous protest against all forms of heating that were unhealthy in their effects. M. Bergeron proposed to refer M. Moissan's communication to the section on hygiene. His proposition was unanimously adopted.

Regimen and Treatment after Operations Upon the Biliary Passages.—M. Dujardin Beaumetz claims, with reason, to have had an experience purely personal, upon this subject, and begins by urging the necessity for operative interference in cases of icterus resulting from retention. He says: icterus gradually produces death by, 1st: Poisoning due to the retention of bile in the system; 2d. By the insufficient digestion of albuminoids, of the feculent and fatty matters, the peptones remaining acid and imperfectly assimilated; the patient, although eating heartily, rapidly becomes emaciated and feeble. The large calculi generally permit the escape of but little bile, and the retention is often complete. The gall bladder becomes enormously distended, and the liver undergoes by retroaction, lesions that are of the nature of hypertrophic cirrhosis. After the operation, the icterus disappears by a veritable scarlatinal desquamation. The fecal matter slowly resumes its natural color, liver continues large for some time, and the biliary infection shows itself by febrile paroxysms analogous to those of malarial origin, recurring every fifth to tenth day. Principal therapeutic indications are: 1st. To control fever by the administration of the chlorhydrate of quinine by injections or suppositories, rather than by way of the stomach, intestinal antiseptics by the special employment of salol, and careful consideration of the condition of the kidneys. For the intestinal dyspepsia, small doses of the bicarbonate of soda an hour after eating, to diminish intestinal acidity.

SURGICAL SOCIETY.

President, M. Lucas-Championnerre.

M. Chaput presented a report upon M. Martinet's operation by invagination upon gangrenous hernia.

Observations upon Tracheotomy.—M. Gouguenheim, who had already in 1886, entertained the Society with his personal views upon tracheotomy, renewed the subject, and submitted certain operative modifications to the methods heretofore employed. He had observed that intercrithroid laryngotomy should be practised with the greatest circumspection in cases of tuberculosis. These patients very often presented necrosis of the cricoid cartilage, which it is very difficult to discover by laryngoscopic examination. In the second place, it must not be forgotten, that the cricoid cartilage plays a very important part in phonation, and its section may result in permanent interference with this function. Since two or three years, M. Gouguenheim has improved the operative procedure of tracheotomy, and adopting the ideas of M. Reclus, he has substituted the employment of cocaine for that of chloroform as an analgesic. With a bistoury he divides the integument and subcutaneous cellular tissue. On reaching the aponeurosis of the muscular layer, he makes a puncture with the thermocautery, and introduces a cannulated sound through the orifice, lifts up the aponeurosis, and divides it, always by the thermocautery. The trachea then appears and is opened with a bistoury below the cricoid cartilage or the first ring. The hemorrhage is trivial, the wound small and the operation so harmless that the patient soon recovers.

MEDICAL SOCIETY OF THE HOSPITALS.

President, M. Ferrand.

M. Catrin cited the case of a tuberculous patient, who was saved from imminent death by thoracentesis, and his life prolonged for three months. But he subsequently succumbed to the evolution of the tuberculosis. M. A. Robin read a paper upon the frequency of polyuria, with phosphaturia, in the premonitory periods of tuberculosis. Azoturia is extremely rare. Oliguria is in proportion to the profuse sweats, fever and diarrhoea. He suggests as treatment a milk regimen and injections of sulphuretted hydrogen, which augment the quantity of the urine.

J. A. C.

The New York Medical Times.

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BRAIN BUILDING.

WASHINGTON is rapidly becoming not only one of the most beautiful cities in the world, but also one of the most desirable places as a residence for those who have the time and taste to avail themselves of literary and art culture, and the scientific problems constantly being worked out under the auspices of the Government, by some of the ablest minds in the nation, who find more facilities for work and interchange of thought than can be found anywhere else. The lecture rooms of the Smithsonian Institute are constantly occupied by men who have made a life long study of some specialty in nature, and who have information to impart which can be obtained nowhere else. Among the most brilliant of these students of nature is Prof. Elmer Gates, whose lectures the last winter have been so full of thought and real instruction in that department of psychology, which has heretofore been considered beyond the reach of investigation, that he has been placed at the head of the new psycho-physical laboratory which the Government is now establishing, in connection with its other scientific work. We know that great grief, fright, or intense anger, may so poison the milk of the nursing mother as to carry death to the child. Prof. Gates has not only isolated this poison and shown it in crystals, but has demonstrated that bad and unpleasant feelings create harmful chemical products in the body which are physically injurious, while good, pleasant and benevolent feelings, create beneficial chemical pro-

ducts, and these products may be detected by chemical analysis in the perspiration and urine. Prof. Gates claims that this is not a theory but an actual fact. By exciting definite emotions in individuals and analyzing the perspiration, he has already been able to identify forty poisons and as many beneficially chemical products. If with every bad or good emotion there is a corresponding chemical change in the tissues, the one depressing and poisonous, and the other exhilarating and life promoting, the secret of heaven and hell in our present life, and how to avoid the one and secure the other is in a measure unfolded.

A simple illustration will give some idea of Prof. Gates' line of investigation, and the correctness of his inferences. Three puppies were taken from the same litter. No. 1 received no special attention. The eyes of No. 2 were covered so that not a ray of light could enter from its birth. No. 3 was subjected to a careful course of education of the sight. The animal thus trained, learned to discriminate fifteen different shades of colors.

After a while the three dogs were killed and examined. The parts of the brain which have to do with the function of sight were wholly undeveloped in the pup that had been blinded. In the educated pup they were twenty-five times better developed than in the ordinary dog, as represented by No. 1, being in fact nearly equal to the same proportions of a man's brain. Those portions of the brain substance were more dense, were supplied by more blood vessels, contained more cells, and had more highly developed cells than the corresponding structures in the normal dog.

The important inference is, that what is accomplished for puppies and cats can be done with human beings. Just as the brain of the young dog is developed by such training as has been described, so the child's mind may be built up. This plan, adapted to teaching, produces results very different from those obtained by the hit-or-miss processes of common school instruction.

Brain-building is, par excellence, the science of the future. How is man to get more mind? Upon the answer to that question the prospects of the race depend. Who can doubt that the human brain of 10,000 years hence will produce ideas far beyond the capacity of the best piece of thought-mechanism of to-day?

The psycho-physicist states it as an axiom that the mind can only be educated through the senses. Let a child be blind from birth, and the part of the brain that records the impressions of vision will remain rudimentary. Suppose the same in-

fant to have been born deaf, and the areas of hearing will be likewise undeveloped. If the baby were born without any senses whatever, and acquired none, it would have absolutely no mind. People think of the mind as if it were something purely spiritual. In truth, it is a piece of physical mechanism. Beginning with a child, it may be put together bit by bit.

Every thought which enters the mind is registered in the brain by a change in the structure of its cells. The change is a physical change, more or less permanent. Bad thoughts build up structures of cells which engender evil ideas, and good thoughts contrariwise. Cheerful thinking makes a happy disposition, while indulgence in melancholy has an opposite effect.

The psycho-physicist can take a discouraged, ambitionless and melancholy person and within six weeks transform him. He will be put through a course of mental lessons. To begin with, he will be taught to rehearse for one hour each day all the pleasurable memories he can summon up. He will deliberately devote more time to cheerful and agreeable thoughts. By this means more blood and nourishment will be directed to those parts of the brain which produce such pleasant ideas. Correspondingly, the parts that give birth to unpleasant feelings and recollections will be deprived of nutrition, and at length will become atrophied. Following this plan, the man is transformed from a victim of melancholy and despair into a happy citizen, a joy to himself and to others.

Let the esoteric mind-builder systematically devote an hour each day to calling up pleasant ideas and memories. Let him summon those finer feelings of benevolence and unselfishness which are called up in ordinary life only now and then. Let him make this a regular exercise, like swinging dumb-bells. Let him gradually increase the time devoted to these psychical gymnastics, giving to them 60 or 90 minutes per diem. At the end of a month the change will be apparent in his actions and thoughts. Morally speaking, the man will be a great improvement on his former self.

SIR ANDREW CLARK'S FEES.

IN an article in the *Strand Magazine*, Mr. Pitcairn tell us that, as regards fees, the late Sir Andrew Clark "always took what was offered." Sometimes he would receive £500 for a long journey, sometimes two guineas. After a hard day's work, he was once urgently summoned to a place 120 miles from London. It was a very wet

night. There was no carriage to meet him; no fly to be had. After walking a mile or two he arrived at a small farm, and found the daughter suffering from an attack of hysteria. Sir Andrew did what he could, and evidently gave satisfaction, for when he left, the mother said, "Well, Sir Andrew, you have been so kind you must make it double," and handed him two guineas. He thanked them, and said "good-bye." On one occasion, when going to see a patient in the South, the doctor who was to meet him in consultation met Sir Andrew at the station and told him they were rich, and quite prepared to pay a very high fee. But Sir Andrew replied, "I did not come from London," and, naming the place where he was staying, said, "my fees are only a third of the sum you name. Sir Andrew, it is said, was not indifferent to fees; on the contrary, he rather took a pride in telling how much he earned. He is said to have once received £5,000 for going to Cannes—the largest medical fee known. Some, however, wondered who did pay him—so numerous were his non-paying patients.

INCREASE OF CANCER.

MR. H. P. Dunn, F. R. C. S., in his suggestive contribution to an English magazine (as quoted in the *Review of Reviews*), adduces statistics which show that in 1867, out of a million persons, three hundred and ninety-two died of cancer; in 1890, out of the same number, cancer was answerable for the deaths of six hundred and seventy-six. In short, the mortality from the disease has increased since twenty-three years ago to the extent of upwards of seventy per cent.—Investigation shows that among all the chief causes of mortality recorded in the reports of the registrar general, there is no death-rate which year by year maintains so pronounced an augmenting ratio as that of cancer. There cannot be two opinions on the subject of the real increase of cancer.

The mystery which hangs over the real nature of this disease, Dr. Dunn does not profess to dispel. He reminds us of its resemblance to tuberculosis, the mortality from which, however, is steadily decreasing.

Analogy would seem to indicate that cancer must be a parasitic disease, a disease, that is, whose *fons et origo* depends upon some micro-organism. The belief is now commonly held that the identification of cancer with some micro-organism is only a question of time.

Dr. Dunn proceeds to propound the paradox

that one of the causes of the increase of cancer is the general increase of health in the community! Cancer usually attacks persons of or over middle age; the decrease of mortality, and especially of infant and child mortality, has increased the number of persons who reach the cancer period of life; and then the great increase of possible victims of cancer naturally involves some increase of actual victims. The paradox is confirmed by the fact that cancer cases in early life are actually decreasing in number.

So far as we know at present nothing can strictly be said to be a cause of cancer. The habit of smoking is held to favor its growth, but only, as Dr. Dunn supposes, owing to the irritation of the lip or tongue by the stem of the pipe. The old theory that the disease is hereditary must now-a-days, he says, "be held to be untenable." He gravely doubts the truth of the common growing impression that cancer can neither be "caught" nor "given." If, as seems likely, it proceeds from a microbe, then by the analogy of tuberculosis it would be infectious and contagious.

EFFECTS OF THE SUN ON BACTERIA.

THE recent study of micro-organisms has explained facts which we know to exist, but for which no intelligent reason could be given. The power of the sun's rays in destroying or modifying the action of many of the innumerable varieties of micro-organisms has been demonstrated in a marked degree, especially by the experiments of Dr. Palermo, of Naples. It was found that Koch's cholera bacilli, now almost universally credited with producing cholera in man, and which are fatal to guinea-pigs in about eighteen hours, if exposed to the sun's rays from three and a half to four hours, were perfectly harmless. In these experiments another fact was brought out which may prove of great importance. It was found that guinea-pigs in whom inoculation had produced marked attacks of cholera from which they had recovered, were safe against any further attack, repeated inoculation producing no effect. If this is true of the pig, why may it not hold good in the human being, the inoculation not only producing a milder form of the disease, like kine pox, but rendering it cholera proof?

SANITARY CARS.

THE great improvement in railroad travel within the past few years has been marked, not alone in speed, in well-ballasted road beds and heavy rails, but in the comfort and safety of the passen-

ger cars. The terrible disaster at Spuyten Duyvel a few years ago, not only inaugurated but made obligatory steam heating, doing away entirely with dangerous stoves. The present system of lighting the cars—even more dangerous than the old oil lamps—by gas evolved from a tank under the car, is on the eve of giving place to an electric lighting, in which the revolving wheels of each car run its dynamo, so that each car is self-lighting, storage batteries supplying all the light necessary when the car is not in motion. This, together with better ventilation and freedom from cinders, leave but little to be desired in the way of comfort in traveling. But there is a sanitary matter of the utmost importance to health, considered in the light of present knowledge. The study of bacteriology shows how liable disease is to be communicated in traveling by the presence of micro-organisms.

In the laboratory of the Imperial Health Board of Germany the dust gathered from the floors, walls and seats of cars has been subjected to examination. One hundred and seventeen animals were inoculated with dust taken from forty-five compartments and twenty-one different passenger cars. Part of these died very soon of various contagious diseases, before they had time to develop consumption; of the rest, four killed, four weeks after inoculation, three had tubercles. These three were inoculated with sleeping car dust taken from the walls, cushions, and ceilings. Bacteria at the rate of 78,800 per square inch were found on the floor of a fourth-class carriage, and 34,400, 27,000 and 16,000 per square inch on the floors of the third, second and first-class carriages. The sanitary car should be constructed and furnished so that it could be thoroughly disinfected every day, by washing it out with a hose pipe from end to end, ceiling, walls and floor, without injury to the furniture. Carpets should give place to hardwood floors, and woven steel wire be substituted for the silk and worsted covering of the seats, and the bedding be subjected, before being used again, to thorough disinfection. It would require but very little ingenuity to perfect a system which would prove of inestimable advantage to the health of the traveler.

CHLOROFORM IN LABOR.

IN the February number of the *American Lancet* (*N. Amer. Practitioner*) appears a valuable article from the pen of Dr. W. B. Sprague, entitled "A Plea for Chloroform in Labor." In it he makes reference to the earnest advocacy

in its favor by Sir James Simpson, by whom it was introduced, he pays his respects to the French obstetricians, who only use it in cases of extreme difficulty, and then comes to later opinions cited in its favor, notably that of Fordyce Barker, in a paper presented to the Medical Society of the State of New York in 1887, in which he states that during thirty-seven years then passed he had rarely attended a woman in confinement without the use of chloroform. He did not believe that its use favored post-partum hemorrhage, nor did he believe that in serious heart affections its use was contra-indicated. In his paper Dr. Sprague cites fully, and we think effectually disposes of the objections usually raised against its administration. He deems its use in labor less liable to produce unfavorable results than in other cases, from the fact that labor pains provoke long, deep and full inspirations, in the securing of which the abdominal muscles act as powerful accessories. As it relieves from pain, so it conserves nervous energy, lessens uterine exhaustion, secures more prompt and perfect contraction, and thus diminishes the chances of uterine hemorrhage.

Our own views are in most hearty accord with those of the writer. During a period of forty-seven years of continuous medical practice, it has fallen to our lot to attend nearly two thousand cases in confinement, and for more than thirty years it has been our habit to recommend the moderate use of ether and chloroform during the later stages of labor; a favorite formula being one part of chloroform to three parts of sulphuric ether. In no instance, as far as memory serves us, have we had occasion to regret its use, though not in all cases is it equally well borne. We have never attributed post-partum hemorrhage to its use, nor have we found it contra-indicated in cases of heart lesion. Long since we had settled the question that unless there was serious objection on the part of the patient or her friends, humanity demanded its use.

The advantages to be derived from the use of chloroform in labor, as stated by Dr. Sprague, briefly summarized, are claimed to be:

1. The more rapid dilatation of the cervix.
2. The preservation of the perineum.
3. The prevention of voluntary restraint on the part of the mother.
4. The quieting effect upon the heart, when it is diseased.
5. The prevention of nervous exhaustion, con-

servation of uterine energy, thus lessening the tendency to hemorrhage.

6. A readier reflex action of the abdominal muscles, in response to perineal pressure.

7. The amelioration of suffering.

HEMORRHOIDS.

DR. CHARLES B. KELSEY, whose standing as a specialist in rectal diseases is second to none, summarizes his idea of the relative value of different methods of treating hemorrhoids in his large experience in private and hospital practice in a few words.

If, he says, you wish to radically cure your patients with the least possible pain, loss of time, confinement to the house and risk of accident—use the clamp and cautery. If you wish to accomplish the same result, with no more risk, but with more pain, more local and general disturbance and longer confinement—use the ligature. If you wish to take an hour to do what can as well be done in a minute and gain nothing by it in results—use Whitehead's operation. If you wish a palliative treatment which is not a radical cure, except when sloughing is produced, which is often attended by accidents which will cause great annoyance to yourself, and the frequent disaster of your patients, and which is not free from grave risks—use carbolic acid injection. Dr. Kelsey's experience fully corresponds with all who have had much to do with these cases.

THE RELATION OF SOUND TO COLORS.

WE remember, several years ago, hearing that brilliant poet and essayist, Fitz Hugh Ludlow, whose hashish eater ranks in mental pictures with the opium eaters of De Quincey's, discourse in our parlor, as his fingers touched the keys of the piano, passing from one note to another with light or heavy touch, on the relation of sound to colors, claiming that to the sensitive ear the sound produced by the vibration of the wire was associated with color. What at that time seemed to be the imagination of the poet, has been proved by physicists to be a scientific fact. Mr. H. R. Cochrane, in the June number of *Home and Country*, explains it by saying if a metal staff is swung around with a velocity of sixteen revolutions to the second, our ears will be sensitive to a tone or sound, and as the revolutions are quickened, this tone rises higher and higher in the scale, until there are more than four hundred and fifty revolutions to the second, and again

silence ensues. Let it be supposed that the speed is still increased, until the staff grows hot from the extreme rapidity of the motion, gradually it will become red, then orange, then yellow, and so on until the several colors of the prism have been successfully taken, and again there will be silence and darkness. It is a comparatively easy matter to calculate the shade that would correspond to a certain note of our scale. An eminent physicist has actually made this calculation, and discovered that the tone G flat is equal to Van Dyck brown. According to this theory, if he could hear with perfect ears, what grand chords a sunset must be singing, while the ever changing mass of the aurora borealis must echo with the music of a celestial symphony.

PROTECTION AGAINST DIPHTHERIA.

THE New York Board of Health has announced a new measure looking to the control and diminution of diphtheria, and circulars have been sent to practicing physicians, giving the grounds for the step decided upon, and the reasons why it was deemed expedient.

The proposition is to supplement the primary bacteriological examination now made at the beginning of any individual case of the disease, by other cultures repeated during its course, and during convalescence. It is hoped in this way to make sure that apparent recovery, and the disappearance of all false membrane is followed by the extermination of all the Loeffler bacilli from the throat. The circular is written by Dr. Hermann M. Biggs, Chief Inspector of Pathology, Bacteriology and Disinfection, and is signed by President Wilson, with the approval of the Board.

It is explained that four hundred and five cases of true diphtheria have been subjected to repeated examinations at intervals of three or four days during illness, and until the disappearance of the bacilli. It was found that in one hundred and sixty cases the bacilli persisted after the complete separation of the false membrane, or, in other words, after the individual had recovered. Of these one hundred and sixty cases, one hundred and three showed the germ for seven days, thirty-four for twelve days, sixteen for fifteen days, four for three weeks, and three for five weeks, after the exudation had completely disappeared from the upper air passages. The circular infers, thence, that these results show that in a considerable proportion of cases persons who have had diphtheria

continue to carry the germs of the disease in their throat for many days after all signs and symptoms of the disease have disappeared.

These experiments have led the health department to adopt the rule that no person who has suffered from diphtheria shall be considered free from contagion until it has been shown by bacteriological examination, made after the disappearance of the membrane from the throat, that the throat secretions no longer contain the diphtheria bacilli, and that until such examinations have shown such absence, all cases in boarding-houses, hotels and tenement-houses must remain isolated and under observation. Disinfection of the premises, therefore, will not be performed by the department until examination has shown the absence of the organisms.

TEA AND COFFEE IN DIGESTION.

THE custom of using the leaves or berries of certain varieties of plants which contain as their active principle substances resembling theine or caffeine is almost universal. They undoubtedly possess a certain amount of stimulating power, and a hold upon the nerve structures which prevents a too rapid change of molecules in the animal economy until they have performed their proper function, but it has been shown by physiologists that their immediate effect upon the stomach is to retard digestion. It is known that the process of digestion in the stomach is due to the presence of hydrochloric acid and a small amount of pepsin, both of which are secreted under the stimulating action of food. A distinguished German has experimented upon digesting food artificially in a medium of hydrochloric acid with the necessary amount of heat. Hard boiled eggs were chopped and thrown into the acid liquid, and to this was added in different cases pure water, tea and coffee. The percentage of albumen digested by pure acid was 94, with water 92, with tea 66, and with coffee 61. The question might arise, in light of these experiments, if tea and coffee would not serve their legitimate purpose when taken alone, or with a cracker or a crust of bread, instead of a full meal.

In whatever way they are taken there is no doubt but what digestion is seriously impaired by their excessive daily use. A strong stomach with full vitality may suffer but little, while the delicate and sensitive should use them with great caution. Tea and coffee are just as liable to abuse as opium and alcoholic stimulants.

DR. GRANDIN, of this city, gives in the April issue of the *New York Journal of Gynecology and Obstetrics* a case when the child, still in the womb, uttered during the turning distinct cries, as of an angry child. Each motion of the foot was followed by a cry distinctly heard by the physicians and nurses. The child was asphyxiated but speedily revived. Air undoubtedly obtained entrance into the uterus during the first step in turning. Cases of this kind have been noticed from time to time, but they are so rare as to render each additional case worthy of mention.

RESTORATION OF HARDENED RUBBER.—It is said that rubber goods, which have become hardened by age, may be restored to almost the original softness by simply soaking in a water of ammonia diluted with twice its bulk of fresh water; and that this does not injure the rubber in any way, and restores the elasticity. Usually, soaking from ten minutes to half an hour is quite sufficient. After drying, the whiteness may be restored by dusting well with chalk or kaolin.

THE American Institute of Homœopathy commenced its Annual Session in Denver, June 14th. At the opening about 250 persons were present, which included members, delegates, and quite a large proportion of visitors from the city. The session was devoted to the usual routine business of a medical convention, including reports of committees, reading and discussion of papers, entertainments, and fun generally, with pleasant interchange of thought, forming new acquaintances and brightening old friendships. Nothing of special note occurred, but a full report of the proceedings will reach the members of the Institute through its published transactions. Dr. Fisher, of Chicago, was elected President for the ensuing year.

THE Italian poet, Corrado Capadino, condenses in a few words his ideas of the present condition of society, and the way to that improvement for which the socialists of the last half century have been striving to obtain the clue. "The present society," says the poet, "consists of two kinds of the degenerate. The first class eat too much and work too little, and the second eat too little and work too much. If it is possible to bring about a compromise between the two classes, the physical and moral welfare of mankind will be promoted, and a higher race, from a physiological point of view, will be produced."

The great trouble is, one class eat and drink more for the pleasure of eating and drinking, than from any special thought of the nutriment the food contains, or its adaptability to the actual work of life. The kitchen is the workshop of the artist and the poet, where is prepared the menu which tickles the palate, and brings out the witty remarks of the dining-room. Close thinkers and hard workers eat to live and to work, and the real substantial work of the world with brain and muscle and nerve is accomplished by judicious feeding the body, rather than by constantly exciting the faculties by stimulating the senses.

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A pocket repertory, very useful for ready reference.

MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, by Albert H. Doty, M.D. New York: D. Appleton & Co.

The best work of the kind published.

THE CARE AND FEEDING OF CHILDREN, by L. Emmett Holt, M.D. New York: D. Appleton & Co., price 50 cents.

This little catechism is just the thing for the mother and nurse.

THE NURSES' DICTIONARY OF MEDICAL TERMS AND NURSING TREATMENT, by Hanna Morton. Philadelphia: W. B. Saunders.

This little volume is almost indispensable in the training school and in the library of the nurse.

AN INTERNATIONAL SYSTEM OF ELECTRO THERAPEUTICS, by Horatio L. Bigelow, M.D., and thirty-eight associate editors. Thoroughly illustrated. The F. A. Davis Co., publishers, Philadelphia, Pa., 1894.

The rapid advance of electro-therapeutics during the past few years renders a thoroughly scientific and practical work, such as Dr. Bigelow and his assistants have prepared, an absolute necessity. The work covers the field of the therapeutic use of electricity in its various forms up to the present time, and will be of inestimable use to all, more especially to the thousands who have a mere elementary knowledge of its action.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A yearly report of the progress of the general sanitary sciences throughout the world, edited by Charles E. Saejous, M.D., and seventy associate editors, assisted by over two hundred corresponding editors, collaborators and correspondents. Illustrated with chromolithographic engravings and maps, in five volumes. 1894. The F. A. Davis Co., publishers.

The annual has increased in interest and popularity from year to year as the editors became more accustomed to their work. The issue of 1894 is incomparably the best of the series. To build up these volumes the editors have gleaned from over two thousand magazines, books and monographs, and have arranged the matter under each head as systematically and connectedly as if the entire work was from a single author.

CORRESPONDENCE.

OUR LONDON LETTER.

My last letter to you from this place dealt with some of the peculiar external signs, symbols and surroundings of the London physician.

To what I there said I may, perhaps, add that in dress and equipage, the London doctor is eminently conservative. "Good form" requires that he should always be attired, upon the street, or in his consulting-room, in the regular street costume of the English gentleman, black frock coat and vest, trousers of a lighter shade, stove-pipe hat and gloves. The latitude in which some American city physicians indulge—business coats, suits other than black in color, soft hats, etc., etc.—would horrify both the doctor and his patients over here. The English physician no longer wears a wig, or ruffles, or carries a gold-headed cane to his nose; but he has lost none of that consciousness of professional dignity which his predecessors had, and he moves "like a little tinged" upon this mundane sphere. Catch him receiving patients in consultation, attired in a comfortable dressing-gown and slippers, however rich! Not he, that would be to bring him down quite too near the level of common humanity. And, when he rides abroad upon his daily rounds, he prefers the open Victoria in which to display his natty figure; or, if it be very severe weather, or he is rather infirm, he orders out his brougham. Occasionally he sports a "trap," high, two-wheeled, with gold mounted harness and a "tiger" to stand at the horses' heads while he is making his call. Carriages are more of an absolute necessity to the London doctor, on account of the long city distances, and the lack of as extensive and complete means of rapid transit as most American cities possess. If the doctor belongs to a military, naval or civil service family, or one of high social connection, he is very apt to have his liveried coachman mount the cockade appropriate to the same; for there, as here, the doctor is not at all averse to using any such adventitious aids to public recognition.

The consulting-room of the average London doctor is a model of severe furnishing. Horrid, practical, of the hair-cloth-sofa and mahogany style, they are generally most gloomy dens of probation for waiting patients. I have seen a few consulting-rooms in London which were fairly well furnished; but they bore no signs of woman's hand or taste; they entirely lacked the little touches of refined comfort and culture which is so universally seen in the offices and reception parlors of our home physicians. It is characteristic of English social laws—this sharp drawing of the lines between the business and the family life of a physician's house. His drawing-room, library and all other parts of his house may be as attractive as art, intellect and money can render them, but the consulting-room contains not a hint of all this, and one mentally (if not literally) shivers under the cold pall of scientific bareness which falls over it. I prefer "the American style," where the physician appears in the double character of friend and physician; where the diagnosis is elicited not by means of scientific thumb-screws, but by the deft mingling of question and chat; where the prognosis is delivered not with the stolid coldness of a hate, but from the tender fulness of a sympathizing heart, and the patient feels rested and soothed by the surroundings amid which he has had to pass his ordeal. If there is any place in the world where physician and patient should come together without feeling the intrusion of social lines between them, it certainly is in the sick-chamber and in the consulting-room. And, as an aid to this, in the latter case, a physician should, as far as his means will allow, make it as attractive, comfortable and homelike as possible.

The Vestry, or Parish Board of Health in London, have a plan for the securing of prompt returns from physicians, of all reports of contagious diseases, which seemed to me to be worthy of adoption by our own Health Boards. In addition to the fine for non-report of such cases, (I think

they have such a penalty, as we have) they pay a fixed sum for every case reported to them by physicians practicing in the parish. These reports, made on blanks furnished by the local Health Officer, and to him, are carefully filed, and quarterly he sends a printed request to the physician for his account of the same, which is promptly paid at the rate of two shillings and sixpence (62½ cents U. S.) for each case so reported, a sum quite sufficient to be looked after by the doctor, and which thus ensures the very prompt report of such cases of contagious disease as is required by the Health Board, and, to any doctor in ordinary practice, these reports aggregate an annual sum which is by no means to be despised.

I was very greatly surprised to find in London an almost total lack of ambulances. Indeed, they have no such complete and effective ambulance system as in New York and other American cities. At various points, in the most crowded parts of the vast metropolis, one sees signs, affirming that an ambulance is kept at such or such a place near by. These "ambulance stations," as they are called, number several hundred, I think, but, on examination, they seem to be only places where, on the call of citizens or of a policeman, litters are provided for the removal of wounded, sick, or dead—hand-litters of a primitive sort. And, practically, such cases are most generally conveyed to hospitals in ordinary cabs, hansoms, etc., called from the street on the emergency. At a public "function" which I saw one day, under the auspices of the revived Order of St. John, I saw in the care of the Ambulance Guild of St. John, two ambulances, with the uniformed drivers and nurses (Sisters), but they were of much heavier type than ours, and by no means struck me as equal to the admirable ambulance carriages of our New York hospitals. In fact, strange as it may seem, the hospital ambulance service, as we have it, is entirely unknown in London.

H. R. STILES.

London, June, 1894.

NEW RESEARCHES UPON GLYCOSURIA.*

M. Kauffman: In diabetic dogs, as in those that are healthy, the suppression of the function of the liver is constantly followed by a diminution of the proportion of sugar in the blood. In cases of hyperglycæmia, and pancreatic glycosuria, the proportion of glycosis in the tissues is produced with the same activity as in cases of normal glycosuria. Pancreatic hyperglycæmia always has as its cause a glycosic hyper-secretion of the liver, and not an arrest or diminution of the destruction of sugar in the tissues. The rapid increase of the proportion of sugar in the blood of the general circulation, soon after the re-establishment of the circulation in the liver, is a new proof of the importance of this organ in glycogenesis, and of the glycemic function.

Glyco-secretory Nerves.—MM. Morat and Dufour: It is generally admitted that the transformation of glycogen into glucose in the liver is governed by the nervous system acting in an indirect manner, and that the nerves in question are no other than the vaso-motor nerves; but we know that in a certain number of glands there exist non-secreting nerves, acting upon them as the motor nerves do upon the muscles and we must ascribe to the liver what we know to exist in other glands. Direct proof can be given of the existence in the liver of nerves of secretion. If these nerves be excited without the general circulation, there occurs a notable destruction of hepatic glycogenesis. This destruction may reach one-half of its total quantity in a short time, not exceeding twenty minutes. There is no doubt that the nervous system has a direct action upon the elements of the liver, that is to say, independently of that which it has upon the circulation of the blood. The hypothesis of a sugar making ferment in the liver does not seem to be incompatible with the existence of direct nerves in the hepatic cells.

* Extracts from the minutes of the proceedings of some French societies, translated by James A. Carmichael, M.D.

Of the Mode of Action of the Pancreas in Regulating the Glyco-formative Function of the liver. New Facts Relating to the Mechanism of Pancreatic Diabetes.—M. Kauffmann: When the nerves which supply the liver are divided, the effects are very different in those animals in which the pancreas is intact from those in which this gland is extirpated after having divided the nerves of the liver.

In the first, we observed hypoglycemia, or rather the glycemia remains sensibly normal. But in the second, hyperglycemia and often glycosuria are always produced. The appearance of hypoglycemia by the fact of the section of all the nerves of the liver in those dogs possessing a pancreas, and the production of hyperglycemia in those in which the gland has been extirpated, makes perfectly evident the controlling action exercised directly upon the liver by the internal secretion of the pancreas. When all communication between the nerve centres and the liver are destroyed, the pancreas, by the product of its secretion, continues to moderate interhepatic sugar producing or hypoglycemia. The removal of the pancreas destroys direct controlling influence, and hence there is excessive activity in the production of sugar, viz.: hyperglycemia and glycosuria. All the modifying influences impressed upon the pancreatic function by the nervous system, necessarily exercise an influence of an inverse order upon the sugar making function of the liver, by the interposition of the product of pancreatic secretion. In view of this new fact, the question arises, Does the pancreas alone regulate the formation of sugar in the liver, or is it due to the direct action of the nervous system upon the liver?

The Protective Power of Serum Against the Poison of Venomous Reptiles.—M. A. Calmette: Animals can be immunized against the poison of serpents, either by means of repeated injections of doses—weak at first, but afterwards progressive—of the poison, or by successive injections of it mixed with chemical substances, among which may be cited the chloride of gold, or the hypochlorites of soda or lime. The immunization obtained is by a method analogous to that employed by MM. Roux and Vaillard to produce a condition refractory to tetanus. The serum of animals so treated is, at the same time, preventive, antitoxic and therapeutic, exactly as in those animals immunized against diphtheria and tetanus. It possesses these properties, not only as respects the poison which has served to immunize the animal from which it was taken, but for poisons coming from other sources. The serum of a rabbit immunized against the venom of the cobra, for example, is antitoxic to the venom of the viper of France, of the "hoplocephalus" and the "pseudelium" of Australia. The antitoxic power, *in vitro*, is naturally very variable, according to the dose of the poison against which the animal which furnishes the serum is immunized. Antitoxic properties of the serum may develop in the blood of animals not immunized, following a single injection of a dose of the poison that was not fatal. They may also develop under the influence of repeated injections of alkaline hypochlorites, in a weak solution, without mixture with the poison. On treating, by injections of antitoxic serum, rabbits that had been inoculated with the fatal dose of one centigr. of the venom of the cobra, we observed that the rabbits that received five cc. of the therapeutic serum from a quarter to half an hour after the poison, resisted all.

One is authorized to think that in man the efficacy of the injection of therapeutic serum would not be inferior to the same in animals. While waiting until the serum therapy can be employed against venomous bites, one may utilize, in preference to the chloride of gold, the neutralizing properties of the chloride of lime, by injecting all around the wound, and at some little distance from it, a solution of the chloride of lime, 20 to 30 cc., prepared at once by diluting five cc. of a solution of one-twelfth in forty-five cc. of boiled water. I have proved that the intervention of the chloride of lime was always effectual in the rabbit, twenty minutes after the subcutaneous or intramuscular inoculation of a dose otherwise fatal in

two hours to this animal. It is extremely rare that the bite of the most dangerous serpents is fatal to man in so short a delay. When one may employ, along with the injections of the chloride of lime, that of immunized serum, whose therapeutic power is much greater, the mortality will be confined almost entirely to those persons who could not possibly resort to treatment.

BIOLOGICAL SOCIETY.

M. Chauveau, President.

President Chauveau called the attention of the Society to two painful losses it had recently sustained during the vacation just passed, viz., the death of M. Brown-Séquard, former President of the Society, and one of the most distinguished physiologists of the age; and the other, M. Georges Pouchet, who had been so devoted a member of the Society. In accordance with the request of M. Brown-Séquard, no eulogy would be pronounced.

M. Gilbert stated the effect of galacol upon the temperature of tuberculous patients employed externally, as compared with the commercial galacol, which did not contain more than forty-five per cent. of the genuine galacol. The differences in the effect were not proportionate to the differences of composition of the two products, which M. Gilbert attributed to the action of the creosol contained in the impure galacol in the proportion of fifty per cent., and whose action is very like that of true galacol.

M. Capital had observed a great irregularity in the effects of commercial galacol, and he had noted the fact that this product exercised a marked analgesic influence upon the rheumatoid and neuralgic pains of consumptives.

Diphtheritic Toxine.—MM. Hallon and Enriques remarked that diphtheritic toxine used experimentally occasioned diffuse hemorrhages of the medulla and the lesions of myelitis. It also produced central lesions in an ape.

Effects of the Vapors of Mercury.—M. Féré: We learn from Gervais that the vapors of mercury destroy the embryo of the bird and arrest incubation. By employing the vapors intermittently the embryo is not entirely destroyed, and the formation of monstrosities may be seen.

M. Thirioix presented the influence of an alimentary regimen upon the production of diabetes. It varies according to the mode of production selected. A dog deprived of food for eight days can have the pancreas removed without there being any evidence of glycosuria, but puncture of the fourth ventricle causes him to become glycosuric.

M. Pilliet gave the lesions of the spleen produced by destructive poisons, such as toluilenes-diamine and the nitrate of soda. In eight young dogs the same lesions were found. The corpuscles of Malpighi were atrophied, deprived of their proper elements, and the venous pulp was gorged with blood, and sometimes presented extensive ecchymoses. Red globules, transformed into methemoglobin, were also observed. These lesions resembled those of old age. The spleen lost its active elements and became like a bloody sponge. Then one may, by experiment, as it were, senile an organ at will by the employment of the appropriate toxic agent.

Results of Injecting the Defibrinated Blood of One Species of Animal Into One of Another Species.—M. Hayem: These results are of two kinds. Sometimes the transfused blood completely modifies the blood of the second animal. This occurs when a goat or rabbit is inoculated with the blood of a dog. Then the ordinary effects of global destruction are observed, urobilinuria and especially the production of fibrinous concretions in the organs and death by embolism. Sometimes the transfused blood is rapidly destroyed by the organism into which it has been introduced. This is the case when the dog receives the blood of the other animals—the effects are mild and the production of fibrinous concretions is much less.

Mechanism of Hyperglycemia Determined by the Diabetic Puncture and by Anesthetics. Experimental Facts Serving to Establish the Theory of Saccharine Diabetes, and the Regula-

tion of the Sugar-forming Function to a Normal Condition.—M. Kauffmann: By pursuing the experimental analysis of the regulation of the sugar-forming function, I have discovered new facts which enable me to understand the mode of action of the nervous system upon the formation of sugar, and to comprehend the different disturbances of this function. After cutting the splanchnic nerves, or the nervous fillets of the solar ganglion which supply the liver and pancreas, the diabetic puncture and anæsthetics did not produce hyperglycemia. The section of the nerves of the liver alone, nor that of the nerves of pancreas alone, did not prevent the hyperglycemia from appearing when the diabetic puncture was made or the animals were anæsthetized. In other words, the action created in the nerve centres by the diabetic puncture and the use of anæsthetics, was transmitted simultaneously to both liver and pancreas. It results, then, that the pancreas receives an inhibito-secretory action, restraining its internal secretion, while the liver receives an excito-secretory action for its sugar secretion. These two actions unite in the same work, viz.: the production of hyperglycemia. In the sugar making process the liver should be considered as the motor power, while the pancreas should be regarded as the restraining power. When the inhibitory force of the pancreas ceases to act, then the motor power of the liver increases its excito-secretory force. In effect, the pancreas ceases to pour into the blood the product of its internal secretion, which restrains the hepatic cells, and at the same time the liver receives, by its nerves, an increased secretory excitation. By these two effects the sugar-making organ—the liver—acquires the maximum of its sugar secreting power. Aided by these facts, we can easily reach the mechanism that regulates the glycemie function and the mode of production of all the clinical and experimental forms of saccharine diabetes. Glycosuria, in consequence of hyperglycemia, has always as its direct cause the suppression, more or less complete, of the internal pancreatic secretion, coincident or not, with the augmentation of the sugar-forming force of the liver. The extirpation of the pancreas, every pathological alteration of the pancreas which occasions the suppression of its internal secretion, every nervous influence—whether it be of central or reflex origin—which exercises a restraining action upon the internal secretory function of the pancreas, all of these causes, whether isolated or associated, will produce, as a natural consequence, hyperglycemia and glycosuria. From these facts we can easily see how it is that saccharine diabetes may be developed by lesions of different characters involving the brain, the protuberantia, the bulbous, the medulla, the pneumogastric, great sympathetic, pancreas and liver. In the same way are explained the forms of diabetes of reflex origin, emotional and toxic, which are not generally accompanied by material lesions in the organs. These different and varied physiological actions all tend, more or less, to the complete arrest of pancreatic secretion, and in consequence, to the suppression of its restraining influence upon the hepatic cells. In fine, all the clinical forms are but varieties of the one form, of which the experimental diabetes obtained by total extirpation of the pancreas, is the type.

MEDICAL SOCIETY OF THE HOSPITALS.

M. Ferran, President.

M. Marie presented a case of syringomyelia in the form of acromegalia. The patient was a young man of twenty-one years, who was attacked with syringomyelia, and in whom the right hand and left foot had, for some years, been much increased in size. Hoffman published an analogous case under the name of chiromegalia, in order to avoid error. It seems preferable to adopt this designation.

M. Gaillard presented a case of a man of thirty-five years, affected with total unilateral pleuro-pulmonary sclerosis, of tuberculous origin. It was a case of tuberculosis of a fibrous form, whose origin it is difficult to explain, the man being neither arthritic, syphilitic nor alcoholic. M.

Gaillard asked if it would be better to treat the patient with the ioduret of potassium or continue the use of creosote. Mr. Ferrand thought the pulmonary secretion could be controlled by galacal and the fibrous pulmonary conditions by the potassium.

MM. Balzer and Lacour have successfully treated orchitis by local applications of galacal. They must be made of the pure galacal, and applied to the abdomino-inguinal region, and upon the scrotum. It is preferable to employ a pomade composed of thirty grains of vaseline to five of galacal.

M. Chanffard thinks the analgesic action of the galacal is due, in these cases, to a reflex action upon the cutaneous nerves. He has always seen the pains of orchitis calmed by the salicylate of soda, six or eight grains a day. This remedy acts also upon the blennorrhagia at the same time. M. Ferrand cited cases at the Hotel Dieu, in which local applications of galacal were particularly successful in obstinate neuralgia. Their analgesic effects were immediate and permanent, but their antithermic effects were wanting, which was probably due to the presence of glycerine in the solution employed. In order then, to secure the antithermic effect of the galacal, it should be used pure, or in the form of vapor.

M. Laneran: Observation of pulmonary sclerosis of paludal origin is not as rare as is supposed. Its pathogenesis seems to be the same as that of splenitis, chronic hepatitis, and the interstitial nephritis of paludal origin. The irritation produced by hematozoa, induces finally the lesions of chronic inflammation. Acute pneumonia is also a frequent consequence of paludism.

M. Handt related the case of a young girl of eighteen years, who had uremic symptoms during an attack of chlorosis. This observation proves, as was demonstrated by M. Dieulafoy, that in this disease nutrition is interfered with, and there is an accumulation in the organism of the products of imperfectly oxidized disassimilation, which finally produce epithelial nephrosis. Their harmful action is often facilitated by the arterial obstruction indicated by M. Lancereaux. Different intercurrent conditions, such as overfeeding, bad food, and pregnancy, aggravate the renal complications, and produce uræmia. In such cases, as in those of M. Dieulafoy, the nephritis rapidly yields to a milk diet.

M. Hayem. Albuminuria in chlorosis is very rare, and the phenomena of Bright's disease, in such cases, are due rather to a dyspeptic condition than to any alteration of the blood.

M. Sonques presented a patient affected with progressive atrophic myopathy, causing unnatural attitudes. About ten years ago, the patient observed that his arms were becoming weak. Four years after, the same weakness appeared in the lower limbs. The sensibility is normal. The particular interest in this case, which unites the types of Erb and of Landouzy-Dejerine, resides in the character of the deformity and the awkward attitudes assumed by the patient. In order to remain erect, he is obliged to separate his legs and arms in an unnatural manner, to project the abdomen forward, the top of the thorax and the head being forcibly held back. To sit down or to get up he is compelled to take hold of some support by his hands, and to execute with the trunk of the body the most unusual contortions.

M. Marie remarked the manifest flattening of the occipital region. This is frequent in myopathic subjects, and may be seen in the different forms of primitive and progressive myopathy.

THERAPEUTIC SOCIETY.

M. Adrian, President.

M. Patein communicated a new case to illustrate the accidents occasioned by the internal employment of salol. A young man of twenty-three years, having no personal or hereditary nervous predisposition, took in a few hours eight grammes of salol. There ensued both general and special sensory troubles, principally of the senses of taste

and touch. These seemed to be due to the phenate of soda. The marked anæsthetic properties of phenic acid are well known. To the symptoms produced in certain subjects by salol should be added those involving sensation.

M. Bardet read a paper entitled "Researches Upon the Therapeutic Action of Some of the Derivatives of Formol." The chief object was a theoretical inquiry for a bromide which would not produce the inconveniences of the metallic bromides, and the composition of which would realize an antiseptic according to the hypothesis of M. Féré, who, in order to avoid the bromic furuncular eruption, administered antiseptics at the same time with the bromides. These researches were made with M. Trillat, who prepared derivatives having formol as the base. This last body was selected because it is antiseptic in the smallest dose. In this way the experimenter was induced to investigate formine (or méthylène diamine, méthane) which served to prepare iodoformine, afterwards iodethylformine and bromethylformine. All these bodies have the properties of regenerating formol in the presence of alkalines, and at the same time of iodine or the iodurets and alkaline bromides. Formine is not toxic; it may be taken with impunity in doses as high as two to four gr. It easily dissolves uric acid and the urates, and in this respect may be compared with piperazine. Iodoformine slowly regenerates iodine and formol, it is a powerful antiseptic, and has given to Dr. Rynier a Tenon and the author excellent results in the treatment of ill-conditioned ulcerations and wounds. Bromethylformine regenerates the bromide of sodium of formol and probably of alcohol in the economy. From experiments made by the author and M. Féré at Bicêtre, upon nervous and epileptic patients, it results that this body possesses the distinct action of a bromide, but less energetic than the metallic bromides. It is easily taken and produces no furuncular eruption. It should be remembered that the bromide of potassium is one and a half times more active, and that three of the bromethylformine may be given where only two of the K. Bz can be administered.

Iodethylformine, when given to animals, is well borne, and causes no accident in the dose of one gramme. Continued for several days, it is eliminated by the urine in the state of an alkaline ioduret. This body has not yet been employed in the human subject.

ADMINISTRATION OF THE MEDICAL LAW OF THE STATE OF NEW YORK.

SUMMARY OF REQUIREMENTS.

Medical practice in the State of New York is regulated and administered under the provisions of Article VIII., Chapter XXV., of the General Laws, entitled "The Practice of Medicine." *

THREE SEPARATE STATE EXAMINING BOARDS.

Under the provisions of the medical law of New York, three separate State Boards of medical examiners are appointed by the Regents of the University, the appointees being selected from twice the number required, the names of such nominees having been previously presented by the three State medical societies respectively. The term of service is three years.

QUALIFICATIONS FOR PRACTICE.

Candidates, prior to an examination, are required to furnish the Regents with credible evidence showing:

1st. That the applicant is of good moral character, and is more than twenty-one years of age.

2d. Evidence of having received a preliminary education, the minimum standard being the following: A Regents' certificate of having passed an examination in arithmetic, elementary English, geography, spelling, United States history, English composition and physics, or an equivalent thereof. (The Regents may, in their discretion, substitute evidence of five or more years of reputable practice, provided such substitution be specified in the license).

* Chapter 661, Laws of 1893. Also known as "The Public Health Law."

3d. Proof of having studied medicine not less than three full years, including three satisfactory courses in three different academic years, in a medical school registered as maintaining at the time a satisfactory standard. (The Regents may, in their discretion, accept as a substitute, evidence of five or more years of reputable practice, provided such substitution be specified in the license).

4th. Proof of having received the degree of bachelor or doctor of medicine from some registered medical school; or a diploma or license conferring full right to practice medicine in some foreign country.

5th. Payment of a fee of \$25.00.

6th. The candidate to specify one of the three examining boards before which an examination is desired.

After having complied with the foregoing requirements, the candidate is entitled to receive an order for an examination, and a notice of the time and place at which regular examinations are held. Six examinations are held annually, and are conducted simultaneously in New York City, Albany, Syracuse and Buffalo.

7th. Pass an examination conducted by one of the boards, in the seven principal departments of medicine, viz.: Anatomy, physiology, including hygiene, chemistry, surgery, obstetrics, pathology, including diagnosis, and therapeutics, including practice and materia medica; the minimum rating in each department being 75 per cent.

In order that every candidate may receive an impartial examination, permission is given the candidate to appeal from the decision of a single examiner, in cases in which ratings fall below 75 per cent. to the decision of the full board, in which case he has the advantage of a majority vote.

If by a majority vote his rating still falls below 75 per cent. in case his rating in all the other six branches averages 80 per cent. or higher, the candidate is entitled to a re-examination, within six months, in the single department in which he has failed.

If, however, he has failed in more than one department, and if his low standing is not raised by a majority of the full board to a 75 per cent. rating, the candidate is at liberty, within one year, to ask for a re-examination before the same board, such re-examination to be in all the seven departments. In all cases of re-examinations, no additional fee is charged.

Candidates are known to the examiners only by number, the names of the candidates and sources of graduation being withheld until after their qualifications are determined.

8th. Registration of the license, the registration fee being one dollar.

PENALTIES.

Unregistered practitioners are subjected to a fine of \$50.00 for each offence, and for every day of such unlawful practice.

Unlicensed practitioners or those attempting to practice under a license fraudulently obtained, on conviction, are subject to a fine of \$250.00 or imprisonment for six months for the first offence, and on a subsequent conviction, to a fine of \$500.00 or imprisonment not less than one year, or to both fine and imprisonment.

RESULTS OF TWO YEARS OF ADMINISTRATION.

The result of two years of trial has very forcibly demonstrated the striking fact, that out of the four hundred graduates of medical colleges examined, forty were grossly deficient in medical learning.

A thorough canvass, conducted county by county, during 1893, by the committee on medical legislation of the old-school State medical society, made the fact plain that more than one-fourth of the registrations that had been entered during the year in the several counties were invalid, and that the parties were thereby attempting to evade the requirements of the medical law.

Copies of the Medical Act, and of sets of blanks to be filled by applicants for a license, will be furnished on application. Address, "Secretary of the Regents of the University, Albany, N. Y."

H. M. PAINÉ, M.D.

Albany, N. Y., June, 1894.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE DIETETICS.

Separator Skim Milk.—One of the neglected foods (says the *Times and Register*), is separated milk. That this is not utilized much more extensively is due to prejudice founded on ignorance.

In *The Scotsman* (Edinburgh) April 25, 1891, is an interesting dissertation on separated milk, from which we take a few points. The milk is placed in a metallic cylinder that is revolved at a very high speed. This throws bodies of higher specific gravity to the circumference, while the lighter part, the cream, gathers in the center. The cylinder is found to be coated with a slimy paste, consisting of cow hairs, epithelial scales, blood, straw, chaff, wood, paint, dust, soot, tubercle and other bacilli. Milkmen always speak of the *cleanness* of separated milk in a way that shows how this has impressed them. After seeing what has been extracted from the milk, most persons would prefer not to use any but separated milk and cream.

By this process the cream is extracted very soon after the milking, and the products are that much fresher than when the milk has been "set" for cream for one or two days. As more cream is obtained by this process, the remaining skim milk can be sold at a lower price than the old fashioned skim milk.

When separated milk was first employed in Denmark, it was opposed by physicians; but this prejudice was dissipated by a distinguished physiologist, who stated that it was admirably adapted for human consumption, and almost the cheapest food obtainable; though, as man cannot live on bread alone, neither can he subsist on skim milk exclusively. Just here we wish to make a point; that the opponents of skim milk make their objections to it as an exclusive diet, while we only recommend it as one element in the diet.

Our Scottish writer compares the cost with that of other foods. Two cents is the cost of an egg containing $\frac{1}{2}$ oz. of albumen and $\frac{1}{2}$ oz. fat. Two cents worth of separator skim milk contains $1\frac{1}{4}$ oz. albumen and $1\frac{1}{2}$ oz. milk sugar. The milk has $7\frac{1}{2}$ times as much flesh forming material and the sugar is worth three times as much as the fat in the egg. One pound of beef costs eighteen cents. It contains three ounces of albumen; whereas eighteen cents worth of skim milk contains thirteen ounces of albumen and $14\frac{1}{2}$ oz. of milk sugar. Compared with whole milk at six cents a quart, for this we get $1\frac{1}{4}$ oz. albumen, 2 oz. milk sugar, and $1\frac{1}{2}$ oz. butter. A quart of separator for two cents contains all these except the butter. The extra four cents is paid for the butter, at the rate of forty cents per pound; or if we pay eight cents for whole milk, the butter costs us sixty cents per pound. Fats of many kinds can be bought for much less than this; so that it is cheaper to buy them, and the skim milk. The latter might well replace tea and coffee for children; while for cooking, the use of skim milk, with an addition of fat, is surely economical and unobjectionable.

As an accessory advantage, the general use of separator skim milk will bring down the cost of whole milk, cream and butter, as this now waste product bears its share of production. Two things are essential: The consumer must know that separator skim is not to be used as an exclusive diet, but that fat must be added in some form; and the dealer must put the price low enough to make it a decided object to the consumer.

Do Coffee and Tea Facilitate Digestion?—This question is treated by C. Falkenhörst in a short paper in the *Gartenlaube*, Leipzig, December, which he devotes to a review of the recent experiments of Schulz-Schulzenstein, published in the *Zeitschrift für Physiologische Chemie*, and designed to throw light on this much-disputed question.

This celebrated chemist prepared from the fresh mucous membrane of a pig, an extract which approached very nearly

in character to the gastric juice, and first tested it with the albumen of a boiled egg. The operation was completed in eight hours, and 94 per cent. of the substance converted into digested albumen. He then submitted a decoction of tea and coffee, severally, to the action of the same preparation. In the case of the coffee, 61 per cent. and in the case of the tea 66 per cent. of the albuminous contents was digested, thus confirming the observation frequently made by physicians that boiling materially prejudices the digestibility of albuminous substances.

Treating more particularly of coffee, he observes, that it contains several active principles, each of which exercises an influence on the system. The most important of these are, first, caffeine, which raises the activity of the heart, operating in small quantities as a wholesome stimulus, but as a poison when taken in excess; second, an aromatic substance, which operates principally on the nerves, acting, in moderate quantity, as an agreeable stimulus. To this is attributable the phantasies so frequently experienced as a result of coffee-drinking. Thirdly, the coffee-bean contains tannin, to which it owes its bitter taste, and this, as is well-known, enters into combinations with albumen which materially prejudices its digestibility. These three principal substances vary very much with the method of preparation. If the coffee is simply infused in water at the boiling point, and allowed to cool at once, we get little caffeine, a great deal of the aroma, and scarcely a trace of tannin. If we allow the coffee to boil for a time, the aroma is dissipated, passing off with the steam; we get more caffeine, and the longer it is boiled, the more tannin is dissolved out.

These experiments confirm the view generally expressed by physicians, that coffee long-boiled prejudices digestion, while a simple infusion facilitates it; but its beneficial action in the latter case is now shown to be due, not to direct chemical action on the albumen present, but indirectly to its action on the nerves of the stomach, promoting the secretion of gastric juice. In other words, its action is physiological, not chemical.

Turning now to tea, he finds its constituents very nearly similar. The tea leaves also contain caffeine (called, also, theine), aromatic substances, and tannin. Consequently in tea, as in coffee, the properties of the beverage depend very much on whether it is an infusion or a decoction.

The problem is very simple. The traveller on the march will find himself benefited most by the caffeine, and to secure this the coffee must be brought to, and maintained for a few minutes at the boiling point. But to take boiled coffee after a full meal impedes digestion and heightens the heart's action unduly. On the other hand, an infusion of tea or coffee, taken at such times, facilitates digestion and exerts a wholesome and exhilarating action on the nervous system. Long boiling, or stewing near the boil, of either tea or coffee brings out all the tannin, which is always prejudicial to digestion. As a consequence, the practice of keeping tea or coffee hot, upon the stove, is a pernicious one.

Sugar As a Food.—Some recent results published by Dr. V. Harley, in the proceedings of the Royal Society of Great Britain, bearing on the influence of sugar as food, in the production of muscular work are full of interest. The conclusions of his experiments, which were performed on himself with Mosso's ergograph, are as follows: (1) Sugar when taken alone is a muscle food; 500 grams ($17\frac{1}{2}$ ounces) of sugar increased the amount of muscular work done on a fasting day from 61 to 76 per cent. (2) The muscle energy-producing effect of sugar is so great that 200 grams (7 ounces) added to a small meal increased the total amount of work done from 6 to 30 per cent. (3) That when sugar was added to a large meal it increased the total amount of work done from 8 to 16 per cent. (4) That the work done during a period of eight hours can be increased from 22 to 36 per cent. by taking 250 grams ($8\frac{3}{4}$ ounces) of sugar. (5) That when sugar is taken at 3:30 P. M., it not only obliterates the diurnal fall in the muscular power, which usually occurs at 5:30 P. M., but even causes an actual increase in the total amount of work done.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Massage in Psoriasis.—In psoriasis I have been able to prove distinct beneficial effects of a prolonged course of massage, says Dr. A. Symons Eccles in *The Lancet*, and the value of the local treatment has been tested in chronic cases of psoriasis universalis when no other treatment, external or internal, has been employed. In order to recognize whether or not the mechano-therapy could be accredited with the involution of the disease, I have selected in different cases some portion of the body—a limb, or one side of the back, or the abdomen—on which to test the effect of local massage in psoriasis universalis, and have invariably found that, while on the untouched parts of the body the disease might be spreading, both by the enlargement and coalescences of existing patches, as well as by the appearance of fresh spots, on the area of skin subjected to massage the centre of the patches commenced to fade, and the rings became narrower and less marked by redness and scaliness, until finally they broke and disappeared. In those cases wherein the patient was distressed by the painful irritation and burning itching, which are frequent subjective symptoms of psoriasis, the effect of massage has been to reduce the irritation and to allay the discomfort, which in some cases produce serious insomnia. In dermatitis and psoriasis the lubricant which I prefer to any other is clarified neatsfoot oil. The advantages it possesses over other fatty or oleaginous applications are briefly these: a small quantity only is needed, as a few drops poured into the palm of the hand are sufficient to remove the scales, to prevent dragging or irritation of the patient's skin, and to thoroughly disappear from the surface both of the rubber's hands and the patient's body, so that in the latter case no unpleasant stickiness, and no heat abstraction from the surface remain to add to the discomfort of the sufferer, while at the same time the skin is sufficiently impregnated with oil to render it tenacious of any dusting-powder which may be applied after the massage.

Bismuth Subgallate in the Treatment of Fermentative Dyspepsia.—According to Dr. Austin Flint, the bismuth subgallate is almost a specific in cases of purely functional dyspepsia with flatulence. He has used the remedy since December 8, 1892, and reports but two cases where no relief was noticed. Both of these were in hysterical women. He first used the medicine in a case of dyspepsia of eleven years' standing, with excellent results.

The following are a few of the cases of remarkably prompt and favorable action: A case of alcoholism of twenty years' standing, with habitual dyspepsia for the last five or six years; bismuth subgallate gave almost instant relief. The flatulence and distress disappeared in twenty-four hours, and did not return, except in a very mild degree, when they were usually relieved by a single dose. A case of dyspepsia of four years' standing, with a chronic diarrhoea, was entirely cured in five days by the use of subgallate of bismuth alone. In this case the trouble returns every few weeks, and is relieved by two or three doses. He prescribes it in the tablet form, each containing five grains.

During the treatment of the cases, patients are simply directed to avoid excesses in food and drink, and to eat little or no pastry or sweets.

Ammonia Chloride as a Remedy in Cystitis.—Dr. George Corrie has published in the *Virginia Medical Monthly* his views concerning chloride of ammonium in catarrhal states.

Directing his attention somewhat particularly to the diseases of the pelvic organs, the writer has had the opportunity to make trial of numerous vaunted agents, old and new, for the relief of cystitis, and finding the simple chloride of ammonium so much superior to all others, calls the attention of the profession thereto.

Some of the conditions mentioned demand operative

or other measures for radical cure, but the above named drug will be found of material service in preparing cases for operation, in palliating cases unsuited for operation, and as an adjuvant where other treatment constitutes the main feature.

A No. 1 capsuleful of Squibb's pulverized purified ammonium chloride should be taken three or four times in the twenty-four hours, preferably when the stomach is somewhat empty, each dose to be followed immediately by a half goblet or a goblet of pure cold water.

The following are some of the conditions in which the drug has been given faithful trial, with most satisfactory results in every instance:

Cystitis dependent upon stone in the bladder, stricture, hypertrophy of the prostate, deposits of urates, etc., gonorrhoea (male and female.)

Cystic irritation from uterine disease or menstrual disorders, malarial effects, masturbation, early pregnancy, simple urethritis (traumatic) in newly married women.

Cystic and renal sequelæ of *la grippe*.

In the majority of cases it was surprising to note the rapidity with which the urine was cleared of bladder mucus, blood-corpuscles, pus-corpuscles, urates, phosphates, etc., the distressing symptoms disappearing therewith, and in no case did the salt occasion any gastric or other disturbance when taken as ordered.

No explanation of the *modus operandi* of the remedy is offered. Only practical experience is here given, with the sincere hope of aiding those whose opportunities have been limited in the treatment of the diseases of the genito-urinary organs.

Fill the capsules only as needed for administration, as the salt dissolves the gelatin in a short time.

Neuratrophia, Neurasthenia and Neurialgia. (By C. H. Hughes, M. D., St. Louis, Mo. Read before the St. Louis Medical Society, February, 1894. An excerpt.)—The neurasthenia of neurology is a condition of the nervous system *sui generis*. It is not necessarily a sequence of organic disorder or of chemical or microbic toxicity, or of poison or starvation of the blood from any cause. It is not a blood disease. It is a neural debility, dependent upon an inherent factor and inadequate central nerve-cell power of appropriation and instability of expression. The instability is due to central debility, and the debility is due to neuratrophia, consequent upon overtax and the hereditary factor, by which assimilation and elaboration of force is not equal to expenditure. The equilibrium between central nerve repair and waste or disintegration incidental to action or organic function is disturbed, and the balance is against the functional integrity of the central nervous system. This may take place when the blood is rich in reconstructive elements, so that while depravity of blood may bring out the unstable displays and develop the undertone of nervous exhaustion in the predisposed, it usually takes place from pure prolonged or intense overtax of cerebral and cerebro-spinal centers, from great and continuous mental or physical strain or shock, and the physical conditions, the atony of organs, the apepsia or dyspepsia nervosa, the hepatic and intestinal torpor, the cardiac debility and irregularity, and all the train of psychical symptoms—morbid irresolution and timidity, the dreads, the fears, the sensory perversions, the anæsthesias and hyperæsthesias, the analgesias and hyperalgesias, the flushings and vertigos, the claustrophobias, mysophobias, phobophobias, morbiophobias, heterophobias, etc., as well as the more defined intellectual and emotional perversions of its later stages, delusive and imperative conceptions, perceptions and feelings, and sometimes morbid impulses, are the outcome of the cerebrasthenia profoundly affecting the cortex, and associately, the region of the medullæ and pons. If we follow the nerve channels of conduction of motor influence down from the psycho-motor areas of the cortex through the corpus striatum to their outward peripheral, and the sensory fibers through the thalamus opticus to their inward central expression, and if we search in the *iter a tertio ad quartum ventriculum*, and in the walls of the fourth ventricle among the cranial

nerve nuclei there, we should find, figuratively speaking, in these centers of afferent and efferent nerve cerebral impression, as well as in the trophic centers of the brain and cord, and in the cerebellar, cerebral and spinal connections of the pons, an explanation of conditions that do not necessitate precedent functional or organic disease in certain organs to account for neurasthenia. On the contrary, the neurasthenia and its underlying central neurasthenia accounts in numberless instances for the complications in the viscera. But the general practitioner has been, hitherto, so accustomed to locate disease in organs, and, fastening upon a certain organ, now the liver, now the kidney, now the stomach (and always the ovary, if his patient be a woman, and her physician one of that narrow kind of gynecologists now happily passing away, generally the kidneys, if a man and his physician a nephrectomist), and treating it to the exclusion of the nervous system, that it has become the popular custom (and popular custom follows professional, a little way off) to charge the troubles of the neurasthenic to the organ or organs that most prominently reveal disordered feeling, as the hypochondriac does.

The physician who does not study and treat his patient all over, or who is not competent to advise his patient how and where to remedy all his maladies, is apt to be a no bigger man in his practice than the little fellow in nasopharyngology who knows only how to douche the nose and throat, or of those other little fellows, the narrow otologists and ophthalmologists, the range of whose practical skill extends but little further than a few collyria and the plucking out of ingrown hairs, or of touching the region of the tympanum and inflating the Eustachean tube. The true specialist of nose or eye or ear, studies and treats from a broader standpoint. In short, he is a physician, as should be the neurologist.

Nature's workmen must have the materials for reconstruction at hand, and these are not all air and sunshine, but the things that the air and sunshine act upon to promote reconstruction and normal metabolism. The hematic reconstructives, and those agencies which counteract the poisons of the blood which infect the neurasthenic, as they do other patients, and cause neurasthenia, are called for. Iron, quinine, strychnia and the iodides are often so obviously indicated that I need hardly mention them to secure approbation of their use. The neurologist differs from the general practitioner in the employment of these agencies (at least, I do), by often employing them by means of electro-cathaphoresis, because he has more time in his office to do so, as he does, or at least, as I do, in the more frequent employment of electricity. The emunctories need attention, as in other diseases.

These patients need also, during their course of treatment, the tissue-building phosphites and the arsenicals and galvanism to promote cell appropriation, and re-establish normal cell activity and tranquility in the affected centers of the cerebro-spinal axis.

There is danger of over-dosing these patients with the bromides because they quiet them, and of forming drug habits, especially morphiomania, because the latter makes the patient feel better at once. This is the practice of the tyro, the quack and the druggist.

The bromide of potassium should never be given to these patients. When bromide is used it should be either the ammonium, sodium or lithium salt. The proper bromides should be used sparingly, hæmatic reconstructives and nutrients freely enough for rebuilding, hypnotics only at night-time; and the idiosyncrasies and peculiar disease-tendencies, as to rheumatism, gout, neuralgia, local congestions, hepatic torpidity, constipation, etc., should be duly regarded and remedied. Thus to successfully conduct the neurology of neurasthenia, the neurologist should be a competent general practitioner and something more. He should have the special skill and facilities of a neurological practitioner for the graver cases. The general practitioner, if he is alert, as he ought to be, can manage the minor case and the major too, perhaps, if he is willing to take the necessary time and patience to accomplish the task.

The Peculiar Odor of Expired Air in Phthisical Patients.—Prof. Rosenbach, of Breslau, calls attention to a peculiar odor observed in the expired air of phthisical patients, which resembles the odor of slight cases of putrid bronchitis, but differing from the latter in that it is of an insipid, sweetish odor. It is volatile, and is not associated with the sputa, and is best observed when the patients cough or respire deeply with an open mouth. This symptom is of value prognostically, for these cases have a gloomy outlook. It is not found to accompany pronounced destructive processes, and is most prominent when the physical signs are but slight. It nearly always accompanies disseminated broncho-pneumonic induration of the lung. In infiltration of whole lobes, or in foci which give rise to great dulness, and in cavities the odor is not observed. In very profuse expectoration it is also absent. In a strikingly large number of patients in whom this symptom was noticed pulmonary hemorrhages appeared, there were profuse night sweats, anorexia, irregular febrile movements, etc. It is probably due to decomposition from micro-organisms in the lungs; and diagnostically this factor is of importance, for it indicates the early presence of abnormal processes. Hence, in cases with such breath he recommends one to look for pulmonary disease. It may possibly be due to insufficient care of the teeth, when a tooth wash will soon clear up the case.

Diagnosis of Cranial Depression.—Helmuth says: "When extensive effusion has occurred under the scalp there may be doubt whether or not depression of the skull exists. When a depression does exist, steady pressure will always cause pain, which would not be the case if no depression were present."

The Urine.—The solid urine is the true urine; water is only the vehicle, and represents but a secondary element. One patient, for instance, who apparently passes a great deal of urine, in reality passes but little, for the enormous amount represents almost exclusively water, while another patient, despite a considerable difference in the quantity of liquid excreted, really urinates sufficiently, because his urine contains a large amount of solid material.

The Forms of Diabetes.—Dr. George Harley gives the following classification of diabetes:

1. Hepatic diabetes—including the gouty variety.
2. Cerebral diabetes—including all cases of saccharine urine arising from nerve derangements.
3. Pancreatic diabetes—the most deadly form of the disease.
4. Hereditary diabetes—a form by no means uncommon, and one, too, where both brothers and sisters may labor under the disease without either their maternal or paternal parent having been affected by diabetes, though more distant members of the family may have suffered from it.
5. Food diabetes—including all forms of saccharine urine arising from the ingestion of unwholesome substance.

In the matter of treatment, besides diet and opium or codeine, Dr. Harley recommends croton chloral, strychnine, phosphoric acid, for thirst, and an absolute prohibition of alcohol.

A New Element in Human Milk.—Modigliani (*Lo Sperimentale*) describes a new corpuscular element in human milk, not visible in fresh milk, but only after a suitable staining process (not given). The corpuscle appears in two forms—one circular, with granular protoplasm and one or more faint nuclei; the other semi-lunar, embracing in its concavity a fat-globule. These corpuscles are present in all specimens of human milk, more numerous in a good nurse, diminish during menstruation, and are probably derivatives of leucocytes.

MISCELLANY.

—Saturate blood stains with kerosene, let stand for a time, then wash out with warm water.

—Garretson, of Philadelphia, says that no one who can eat fat ever dies of pulmonary tuberculosis.

—Dr. Montgomery declares that pain in the inguinal region, occurring before menstruation, is evidence of diseased condition of the ovaries.

—An English surgeon says that people who use rocking chairs the most, get deaf the soonest. Rocking also hurts the eyes and makes people near sighted.

—Dr. Livingston, of Bennettsville, N. Y., has built up an extensive practice, notwithstanding that he has been deaf and dumb from the age of three years up to three years ago.

—Canon Wilberforce, of England, believes that animals have immortal souls, and should not be made subjects of experiment or inoculation. Yet most likely he is not a vegetarian.

—Dr. Adolph Dusterhoff has left to the Berlin University 100,000 marks, the interest of which will be awarded twice a year to the most diligent student in the medical department.

—A bill has been introduced into the Ohio Legislature, forbidding circumcision. It is said that Dr. Pratt intends, as a counter move, to have a bill introduced to make circumcision compulsory.

—Horse flesh has been sold to meat eaters in Paris since 1866, and in 1893 over 20,000 horses were consigned to the abattoirs. Old horse flesh is said to be more tender than that of young ones.

—Iron, according to Professor Calvert, will remain free from rust for as long as a year if it is immersed in a saturated solution of carbonate of potassium, or carbonate of sodium, and then allowed to dry.

—The mother-in-law of the Mikado of Japan was recently ill. She had 423 physicians in attendance, and yet she recovered. A Buddhist priest located the cause of her illness in the introduction of railways.

—The latest remedy against vomiting after chloroform narcosis is to apply a handkerchief moistened with vinegar in front of the nose, allowing it to remain there until the patient returns to consciousness, or longer, if not disagreeable.

—The State of Washington is taking the lead in the education of its citizens in the cultivation of trees and shrubs. Three hundred and fifty acres of land in the university grounds, at Seattle, have been set apart as an arboretum.

—Kitasato, Koch's able Japanese pupil, who has gone back home on a snug allowance from his government of \$45,000 to get started and \$15,000 a year afterwards, is reported to be already treating consumption with remarkable success with tuberculin modified by himself.

—By a recently enacted law all institutions in Ohio heretofore called insane asylums, are to be known only as State hospitals. These are now the Dayton State Hospital, Columbus Hospital and Cleveland Hospital. The only distinctive name is that of the city where located.

—The soul, says Dr. A. A. Stevens, of Philadelphia, is located in the corpus callosum. "The corpus callosum," says the doctor, "is the seat of the imperishable mind, and is the great reservoir and storehouse of electricity, which is abstracted from the blood in the arteries and conveyed through the nerves up the spinal cord to the corpus callosum."

—A writer in the *Forum* thinks that the very successful professional man is overpaid in England, while the average man is meagrely paid. The great difference between mediocrity and success is characteristic of the English social system. It is certain that no physician in America has an income equal to that of the late Sir Andrew Clark, said to have been \$100,000 yearly.

—A marble bust of Prof. Ernst Haeckel was placed in the Zoological Institution, at Jena, Germany, on February 17th, in commemoration of his sixtieth birthday. Scientific men from all parts of the world attended the celebration. Prof. Haeckel is an honorary member of the American Academy of Sciences, and other scientific organizations of the United States.

—M. Letourneau, at a session of the Paris Society of Anthropology, traced the origin of circumcision back to the custom of the Egyptians, who in war practiced it—a sort of scalping of the vanquished—a custom still prevailing among the Abyssinians. From this it developed into a ceremonial rite of homage to God—a symbol of a more complete sacrifice that preceded it.

—The Supreme Court of Indiana, in a late decision, affirms that the physician must not disclose what he learns in the sick room, no matter by what method he acquires his knowledge. In the case in point he was forbidden to testify as to the mental condition of his patient at the time when she made her will. Only the patient, or in case of death his legal representative, can remove this seal of secrecy.

—M. Delisle, librarian to the National Library of Paris, says that the paper upon which most modern books are printed will soon begin to decay. Books printed upon paper made from wood pulp are especially liable to rot early. Even many so-called hand made papers are not more durable, as they are so treated with chemicals as to easily decay. Old fashioned paper made from rags has stood the test of hundreds of years.

—Prof. Peter, of Paris, who died lately, at the age of sixty-nine years, presented in his career an illustration of how ability and perseverance, even in spite of unusual difficulties, can acquire greatness. In his early days he was a type-setter. He was thirty-five years old when he obtained his medical degree, and it was not until he was well in his fifties that he became a professor. And yet he lived long enough to have a French paper say of him: "The hospitals have lost their greatest clinician."

—The consultative committee appointed in Italy to study the question of alcoholism, has recently presented its report to the government. It appears from the document that the yearly mortality ascribed to alcoholism for the whole kingdom, is 1.62 per hundred thousand inhabitants. It was greatest in Liguria (3.46), and the March (3.11), and least in Campania (0.53), and the Abruzzi (0.75). Under the application of the new penal code, which makes intoxication a crime, 16,504 offenses were reported in 1890, and 16,382 in 1891.

—The field of practical surgery seems to be almost boundless. In a recent issue of the *New York Medical Journal*, Dr. Robert Abbe suggests as feasible, the idea of transplanting an entire extremity. That in case a man has lost an arm or a leg the lost member could be replaced, either by purchasing the equivalent from some living subject, or securing it by taking advantage of an amputation for injury. By experimenting on animals, he has found that thin glass tubes can be implanted in large blood vessels, such as the femoral or abdominal aorta, in order to sustain the continuity of the vessel. He has also found that a limb can be entirely amputated, save merely the main artery and corresponding vein, and then reunited, bone to bone, muscle to muscle, nerve to nerve, and perfect union will take place. If, now, these two operations can be combined in one, the act of transplantation is accomplished.